Issue 51 • October 28 1989 • 58p

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NEW COMPUTER EXPRESS

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- TT news
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- Multiface returns

ARCHIMEDES
- Minerva database

QL • BBC • C64 CPC • MSX
SPECIALIST COLUMNS

CRISIS

Why this man must sell £200m of computers – and fast

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60 GREATEST GAMES
32 PAGES PACKED WITH BRITAIN'S BEST COMPUTER BARGAINS

SHOPPING EXPRESS

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● Machine sell off likely as profits plummet

AMSTRAD FACES CASH CRISIS

Amstrad is in disarray after its latest figures show plunging profits, mushrooming overheads, a cash deficit – and huge stocks of unsold machines.

Computers worth £200 million are sitting in warehouses, most of them PC2000s – the high-end range whose sales still haven't taken off for the company. This is more than twice what Amstrad sold this year. If Amstrad is going to shift them margins must suffer – which means cheaper top-end PCs in the shops.

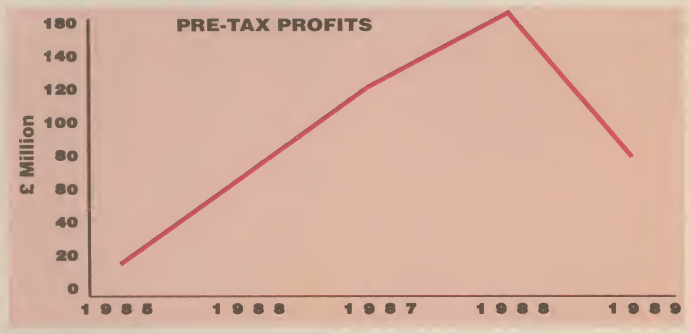
After problems with one of its main High Street retailers, Dixons, which took the Olivetti PC much to Amstrad's annoyance last year, Amstrad may be forced to go cap in hand to ask retailers to shift stock at cut prices.

But Amstrad's Nick Hewer dismissed the possibility of giveaway PC2000s. He told *Express*, " People may try to beat us down on margins, but we shall try our best to sell the equipment at normal margins in the normal and orderly way. It's not a fire sale. There'll be no surprises."

SLUMP

The slump in Amstrad's fortunes is shown dramatically by its share price, down to 47p from its high of 208p last year. Relative to the FT All-share index, it has plummeted from 900 to 200. The present undervaluing of the company, which puts its total market value at £267m with its assets at £311m, means that the company could be bought for less than it is worth, and Sugar is threatening to buy all the shares himself, in effect buying back the company, which was floated in 1980.

Sugar, clearly frustrated by the low share price despite the company's still considerable profits this year, said "I see no necessity for remaining in the firing line if we are not being thanked for it by any form of rating", and threatened to repurchase the stock. But to do this, Sugar needs cash, and the cash to buy the company back must come from sales – which would mean severe margin cutting to shift the stockpile of PCs.



• Sugar: "No thanks"

But the reluctance of investors to put their money in Amstrad is easy to see. The profits halved last year and are likely to halve again; the company's cash position has turned from positive to £100m of borrowing; and perhaps most importantly the company's main market, the UK, has seen the consumer spending.

Sugar has dramatic proposals to make the company more profitable again. First is the closure of Amstrad's audio division – the original business which started Alan Sugar off in the 1970s. Second would be a radical re-organisation of management.

The company's results to 30th June this year showed a profit of £76m on a turnover of £626m. But last year the same turnover produced a profit of £160m – and of the £77m it made this year, £75 was made in the first six months. In other words, profits this half were £2 million, on sales of £277m.

Alan Sugar's statement noted that expenses had increased "substantially as overseas sales and marketing activities have expanded, sometimes in advance of sales" – a reference to some of the advertising campaigns that produced few sales as the PC2000s had been delayed and were not available.

Pundits believe that things will worse for Amstrad before they get better.■

• During the Stock Market ups and down on last Monday Alan Sugar was £17 million down by lunchtime. After the upturn later in the day his fortune had recovered to a more manageable £2 million loss.

PAYING THE PRICE

This has been a year of headaches for Amstrad's accountants:

• Amstrad paid £44m for a stake in US semiconductor manufacturer Micron in an effort to safeguard DRAM supplies. The stake is now worth two-thirds of its original value – a notional loss to Amstrad of nearly £15m if it decided to sell

• The company lost £15m through unavoidable write-offs and bad debts

• Advertising on PC2000s – which were not yet then available – wasted £10m

• The PC2000 range was Amstrad's push into the lucrative top end business market. Problems with the hard disk controllers on the 2286s caused by a faulty component were put right by the company which recalled the lot. To put it right needed £7m

• Despite its efforts to protect chip supplies, the DRAM shortage delayed manufacture of many PCs and cost Amstrad £6m

• The PC200 was Amstrad's attempt last Christmas to sell a downmarket PC clone. The machine bombed, partly due to being hopelessly under-specified for the price, but it wasn't helped by a distribution fiasco which led to it being on sale without monitors, manuals or software. It's anyone's guess as to how much this has cost the company

THE EXPRESS PROGNOSIS

What you can expect for Amstrad's range of machines this Christmas

PC2000s: Price-cutting, but most probably disguised in the form of bundles, on the way

PC200: Disappeared since last Christmas's disastrous launch. Possibly coming out before long as an 'MS-DOS PCW', a cheap word processing bundle with printer and software.

PC1512/1640: These low end PCs look due for a phase-out; watch for special deals

CPC: Selling well. Still a good machine. Expect no special deals or price cuts.

PCW: Still selling very well – recent ad campaign by Amstrad should add significantly to sales. Expect no price cuts or special deals.

Sugar denies Amstrad sale

Following Amstrad's poor performance and its current low standing in the City, the company's boss and founder Alan Sugar was earlier this week forced to deny the all but unimaginable – a sell off of some of his firm.

Various reports at the weekend suggested that Sugar is looking for a partner to help pull the company through a particularly sticky patch. Analysts were all looking toward electronics giant GEC which has enjoyed a good relationship with Amstrad in the past.

However, Sugar said that City watchers had got it all wrong. "We have absolutely no plans to link up with anybody – we're determined to go it alone," he said. He claimed that analysts had misunderstood him during a meeting earlier last week. At the time Sugar had said he would be subcontracting some of his manufacturing to GEC.

"Analysts obviously put their fabrication hats on immediately after my meeting with them last Tuesday. They've dreamed up the whole thing themselves," commented Sugar.

"Of course if IBM offered us £5 a share we'd have to consider it. But the likelihood of that is rather slim." On Monday Amstrad shares stood at 48p.

A TALKING MAGAZINE!

Texas Instruments has spent the last 11 years developing a chip that features in the world's first talking advertisement.

Readers of the current edition of American journal *Business Week* turn over a page to find the tiny device embedded in a credit card sized plastic casing. As they do so, the chip begins to speak about itself, unbelievably in a Bugs Bunny accent, and discusses its promise for use in creative advertising.

Unless the page is turned again, the chip will repeat this a further 650 times before its batteries run out.

With its built in speaker, the device costs only £2.50 to produce and is expected to have a big future in advertising posters, greetings cards, leaflets, business cards and record sleeves.

Perhaps its most far reaching implication could be in applications for the blind.

New Tetris launched

US software house Spectrum Holobyte has announced *Welltris* - the second game from Soviet author Alexey Pajitnov, creator of the award winning *Tetris*.

Like its predecessor, *Welltris* challenges the player to manipulate falling shapes, consisting of various configurations of squares into solid rows. This time though the pieces fall randomly, one at a time, into a four sided well with grid-like walls and bottom. There are three levels of difficulty, set by the number of squares in a piece - the most challenging has five squared objects and the top falling rate of five.

Pajitnov is a highly respected mathematician in the USSR but the success of *Tetris* has little to do with complex maths. The simplicity of the game caught most magazines reviewers on the hop.

Coming in CGA, EGA or Hercules resolutions on the PC, versions for the Mac and Amiga are also on the cards. Spectrum Holobyte games are distributed here by Mirrorsoft on 01 928 1454.

Citizen's tiny plans

Yet another pocket PC is to be launched, this time by Citizen.

The machine is being shown to trade customers around Europe and should be generally available early next year. Citizen is hoping to sell the machine at around £699 although the company could sell the tiny PC off to another manufacturer.

The Pocket PC weighs just under a pound and is fully IBM compatible. It is understood that a special version of spreadsheet Lotus *1-2-3* will be sold with it. It will run smart cards in much the same way as Atari's impressive Portfolio. Curiously, a light pen is also being planned for the machine.

Citizen's offering measures six inches by four inches by three inches making it slightly smaller than the Portfolio. That firm joins Poqet, Zenith, Psion, Compaq and Atari into the pocket PC fray.

See you soon

British Telecom has unveiled a videophone that they hope will be in action by the late 1990s.

The Viewphone can transmit a moving colour picture of the callers from a fixed-focus video camera attached to the phone unit to the other caller's four-inch LCD screen. Both callers must be in a 'reasonably lit' area and be sitting the right distance from the camera.

BT hopes that 85% of the population will be using videophones by the year 2000.

As reported recently in *Express*, some areas of France around Nice already have videophones.

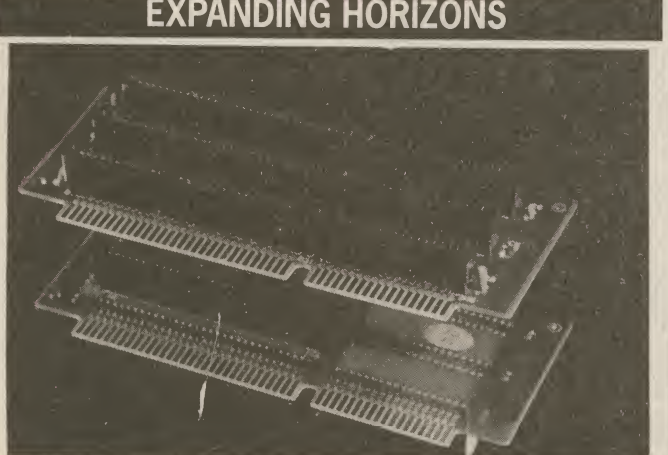
Across the PC Spectrum

Spectrum owners wishing to upgrade to a larger system but wishing to keep hold of their software collection have now had their wishes fulfilled. A Spectrum Emulator for the PC is now under development, allowing most software to be run. The emulator will even come supplied with its own tape leads. For more information contact Jaz Brooks on 061 773 4985.

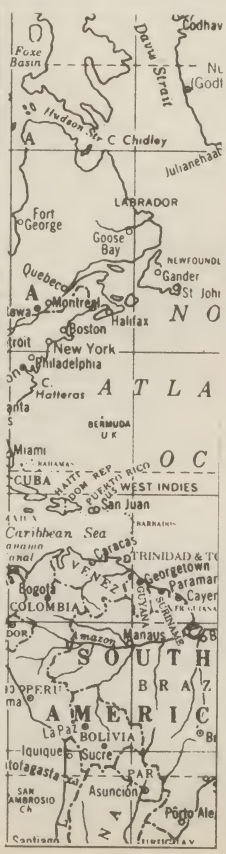
An Amiga date

This year's Commodore Show will be held at London's Novotel Exhibition Centre, Hammersmith from Friday 17th November to Sunday 19th. Entrance is £5 with a specially reduced 'family' ticket allowing two adults and three children available for £15.

EXPANDING HORIZONS



PC AT compatible owners with lack of expansion slot problems will be pleased to learn Chiptech has announced an adapter card that allows up to five cards to be fitted into a single slot. 'T-Board' features three AT style 16-bit slots and two XT style 8-bits slots allowing a mix of disk controllers, graphics and I/O cards all in a unit only three inches high. Chiptech is on 0727 40476



Globe trotting

***PC Globe* is an atlas on disk for PCs from Applied Knowlege Limited.**

Detailed maps and graphics are available on all the world's countries, and these maps are accompanied by facts and figures on all the world's economies.

The included database has details of population, religion, health statistics, economic and trade data, national leaders, political parties, telephone and radio ham codes, and tourist attractions.

The program also automatically converts currencies and time zones and gives you bearings and distances between spots.

The data and the maps can both be exported to word processing and desktop publishing applications.

***PC Globe* was previously on release for £199, but has noe been reduced to £69.95. Applied Knowlege is on 0422 330573.**

COMMENT

DOWN TIME FOR AMSTRAD

To the ordinary Amstrad owner in the street it looks as though journalists are out to get the company. How can we be so disparaging, people ask us, about a concern that has made £77 million this year? A company which employs hundreds of people and brings in taxes for the country?... etc etc.

First, the profits. Amstrad's figures for the last few years have been so ridiculously large that any downturn is a sign that something is wrong. Profits have halved in the last year and look set to more than halve next time: the £77 million profit for this year conceals a profit of £75 million in the first six months and just £2 million in the last – it doesn't take an accountant to see that something has been going wrong recently. So much for the profits.

Second, the management problems. Amstrad has grown too fast, opening up ten overseas subsidiaries in 18 months. The price of that growth is being paid now: 150 jobs gone in the audio division in Southend. So much for employment.

Third, the unsold stocks. Sitting on shelves somewhere, whether in warehouses or in cargo holds, is something like a year's sales of computers. And computers have a finite shelf life, just like strawberries or fashion clothes. Add this to Amstrad's cash deficit, snatched from the jaws of a huge cash surplus last year, and it spells very little to keep the Inland Revenue happy this financial year. So much for the taxes.

When Amstrad was on its way up in the mid 1980s, there were murmurings in the industry that their heavy-handed, occasionally bully-boy approach to business would lead them into grief one day. 'You've got to be nice to people on the way up,' one said, 'because one day you'll be on your way down. And you're going to need people to turn to.'

Is Amstrad finally on the way down? We very much hope not, because Amstrad's potential to create new markets and cash in on them is good for everyone. But if times are hard over the next couple of years for the company, and if it gets an unsympathetic reception from the rest of the industry, it only has itself to blame.

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© Future Publishing Ltd • 4 QUEEN ST, BATH, BA1 1EJ • TEL: 0225 446034 • FAX: 0225 446019
Subscriptions: The Old Barn, Somerton, Somerset (0458) 74011 • Printed by Redwood Web Offset, Trowbridge, Wilts • Distributed by Comag, West Drayton, Middx

● Neural network research brings micro of the future closer

CHIP TECHNOLOGY BREAKTHROUGH

A new 'artificial brain cell' based on a standard unmodified silicon chip has been designed by Britain's first Professor of Neural Networks.

Professor Igor Aleksander of Imperial College has developed a new type of neuron, called a 'G-ram', or 'generalising random access memory'. This makes standard silicon chips act like neural networks, in contrast to the approach taken by other researchers which require specially modified chips.

The G-ram is almost an ideal neuron, more powerful than other net chips. Professor Aleksander believes that the new intelligent learning chip will make its way into home computers within a few years.

Neural networks are the silicon equivalent of linked brain cells, which can 'learn' by experience without having to be programmed or given explicit rules.

For example, a neural network for number recognition is given a few dozen examples of numbers and it works out by association for itself what defines the shape of a 3 or a 5 and so on. From then on it can recognise numbers by their shapes according to what it has learnt. The more examples it encounters, the better it learns, in a similar way to a human brain.

Existing systems are very simple but there are already PC-based programs which can recognise and verify passport pictures, fingerprints and signatures with 98% accuracy. Speech recognition and artificial vision are potential areas where neural networks can be of great value.

Professor Aleksander was responsible for the first computer capable of recognising patterns, a neural network computer called Wisard, in 1981.■

Compaq enters laptop fray

Compaq has entered the rapidly growing notebook computer market with two new 6lb laptops.

The 8086 based LTE 1 Model 1 and 286 based Model 20, priced at £1495 and £1995, both feature 640K RAM and a 640 x 200 backlit LCD screen. Incredibly, optional hard disks for both machines weigh only one pound. The company has predicted that 1990 will see laptops accounting for one in eight computer sales - a figure borne out by a recent survey by Romtec, a market research firm, which reveals that laptop sales are up 70% for the first six months of this year.■

The 27th Annual Amusement Machine Show, held in Tokyo earlier this month, featured over 350 new video games machines, 95% of them Japanese in origin. But in the absence of any significantly new processor technology, the product on show may as well have represented the state of the art a year ago since street fighting, space shoot-'em-ups and driving sims are still the predominant game themes. In the driving stakes, Namco's Eunos Roadster, *based on* Winning Run, Four Trax *and* Suzuka GP *caused a stir, as did Jaleco's* Big Run, *but the stars were* Stun Runner *from Atari - a fast action bike sim - and Taito's driving shoot-'em-up* Special Criminal Investigation. *Old favourites drawing new crowds were Irem's upgrade of* R-Type II *and Capcom's* Street Fighter '89 *- both featuring enhanced speed and graphics.*■

Sprouting problems

The Belgian Stock Exchange computer had clearly had enough of the recent market fluctuations last week. It crashed in the middle of a busy day, bringing all trading to a halt. An embarrassed Belgian broker said: 'International dealers have been ringing up and asking what happened to our Mickey Mouse computer system.'■

Just a northern show

Sinclair QL fans should note that the third Northern Home Computer Show will be held on 2nd December at the Stokes Hall, Leyland, Lancashire. The organiser, Sector Software, is hoping to attract 30 exhibitors. Sector is on 0772 454328.■

Students get cheap loans for Tandy PCs

Tandy Computers has struck a deal with the National Union of Students to supply PCs, laptops and portables at special prices to students.

Any NUS member is now able to borrow any amount from £350 to £1000 via Midland Bank to purchase a Tandy over a three year period for a fixed sum each term at a rate only 1% over base bank rate. As such a £500 loan would cost £16 per term.

The Tandy machines jhave been added to the list of approved machines for NUS loans. Others include Commodore Amigas and Amstrad PCs. More details from your local Students' Union.■

Top quality output from Calamus

ST specialist Signa has announced a Linotype bureau service for its *Calamus* desk top publishing package.

The service enables ST users to send a *Calamus* document on disk to the bureau to be printed at a resolution of 2541 dots per inch - this trounces the standard 300 d.p.i. offered by Atari's laser printer. Images can also be processed to the same resolution and turn around is one day - although when the company introduce a facility to send material by modem this should be even quicker. Prices start at £7.50 for a typical A4 page. Signa is on 0252 341600.■

Just the ticket

British Rail is testing out a new computer-based reservation and ticket issuing system in a bid to cut down queueing time.

InterCity reckons that passengers will currently tolerate queueing for three minutes, will get angry after five minutes, and will leave if they're still waiting after ten. Now Reading and Carlisle are the first stations to have a special system that answers timetable and routing enquiries, makes reservations and issues tickets all in one operation in seconds, via Opus PCIII terminals.

British Rail aims to have the system implemented everywhere by 1993, in time for the opening of the Channel Tunnel.

• Meanwhile BR has commissioned a research team to start work on an artificial vision system to be used on level crossings. The system will decide whether or not it is safe to lower the barriers when a train is coming.■

£1 billion lost through fraud

Accountancy firm Coopers & Lybrand has estimated that companies this year will lose over £1 billion through computer data loss.

While half of this will be accounted for by accidental damage such as fire and flood, this still means £500 million going astray through deliberate acts. About 20 per cent of major companies, according to a recent police report, think that the most prevalent type of fraud is computer-based. Most fraud is not done by 'hackers' but by insiders, police believe.■

How I lost £2 billion

A computer error led to a major British bank losing £2 billion in 30 minutes, it has been claimed.

The incident, which happened 'in the last few weeks' according to *Computer Weekly*, cost the bank more than its annual profits. It happened when a software error on a super-fast funds transfer computer caused the money to flood into accounts of companies across Europe.

It is not known how much of the money has been recovered, or which bank suffered the loss.■

PROGRAMMERS AREN'T BORING

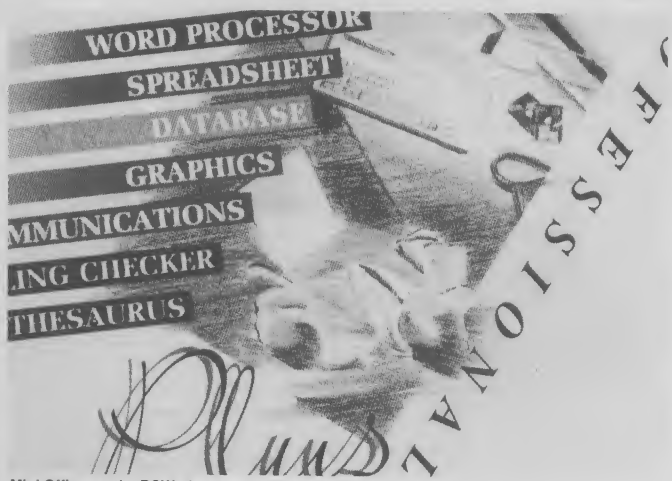
An academic study just published after five years research reveals that computer fanatics aren't just a bunch of boring terminal junkies talking in hex and obsessed with hardware.

Psychologist, Dr. Margaret Shotton's 330 page doctoral research project claims just the opposite - computer dependency is in fact therapeutic by providing an outlet for high levels of intelligence, curiosity and originality.

Although the report does note that some users do regard computers as the ultimate hobby, providing a controllable form of interaction which they are unable to find elsewhere, it concludes that most interviewees had increased their social circles, gained in confidence and improved their job prospects.

However, sociologists among you may not find the results so convincing. The research was based on a sample of only 106 recipients to advertisements placed in newspapers and magazines between 1984 and 85. One could argue that real dependents would be too obsessed to even notice the adverts let alone reply to them. ■

• *The popular image of the programmer as a sickly loner isn't true, according to research*



• Mini Office *on the PCW: the saga continues*

Mini Office Professional – Minus

After criticism over its seven-module program for the PCW, *Mini Office Professional Plus*, publisher Database is to market the package minus the spell checker and thesaurus.

These two modules attracted criticism for being very slow and not working with the word processor. The new five-module package costs £39.95 and includes word processor, database, spreadsheet, graphics and comms packages, plus a manual and quick reference card. Database is on 0625 878888.■

SNIPPETS ● SNIPPETS ● SNIPPETS ● SNIPPETS ●

• **Seen at a meeting: 'Hacking – Should it be made an offence?'.**

Opening speaker: Mr Timothy Hackworth, British Computer Society

• **Apple will launch a colour version of its entry-level machine - the Macintosh Plus - next April. Rumoured street price in the States is $1,400.**

• **A new virus construction set is doing the rounds. This one's from France and it allows you to produce variants of the notorious ST virus -Signum BPL.**

Signum's believed to be half a virus waiting for its other more destructive part.

• **A new multi-user adventure game on Micronet, Prestel and Telecom Gold is to be launched in the new year. Called Trash it promises fire-eating cabbages an pink blancmange rain...**

Japanese get their genes on

Japanese scientists working on artificial intelligence are to harness their 'thinking' computers for mapping human genes.

The fifth generation computers they are building will be able to converse, process visual images and reason like human brains. The Japanese team, led by Kazuhiro Fuchi in Tokyo, believe that unravelling the mysteries of human genes – the chemical 'code' that determines each individual's physical characteristics such as hair colour, intelligence, susceptibility to certain diseases and so on – is an ideal application for their creations.

This could lead to a better understanding, and perhaps prevention or even cure, of many diseases and disorders.■

● Computers open up options

WORKING AT HOME TAKES OFF

Between them, British Telecom and The Henley Centre for Forecasting estimate the UK has several million people working on computers from home rather than in their company's offices. And the number is increasing rapidly.

With office space becoming more and more scarce and expensive, employers are looking at other ways of cutting costs while maintaining productivity. Teleworking is seen to be a viable solution with a wide variety of employees either hooked directly into office computers or sending material in by E-mail.

At a recent conference organised by ACRE, a rural development charity based in Cirencester, the explosion in teleworking was held up as a possible saviour of the flagging fortunes of rural economies. For with EEC grants as subsidy, five 'telecottages' are soon to be set up as pilot schemes in Staffordshire, Derbyshire, Wales and the western highlands of Scotland.

A telecottage is a community facility where high-tech gear will be made cheaply available for activities such as word processing, desktop publishing and bookkeeping. Each centre will cost around £10,000 to set up and will provide upto four PCs with hard disks, laser printers, fax and E-Mail facilities.

Distance working is becoming increasingly common in jounalism and the publishing industry, where the common availablility of modem links into national newspapers and other publications provides the incentive.

This trend in distance working follows the experience of Scandinavia where the 50 telecottages already set up and running have provided an essential service in remote areas as well as well-paid employment for those participating in the schemes. ■

Who ya gonna call?

Sega owners are to get their hands on the biggest selling computer game of all time – *Ghostbusters*.

Activision's four stage classic has notched up sales of more than two million on home computer formats and is set to score a hit with the Sega console. It costs £27.95 from Virgin/Mastertronic.

The firm has also launched *American Baseball* and *Alex Kidd's High Tech World* at £24.95. ■

Amstrad Shoot from the Lip special

"We took on far more than we could handle and now we're paying for it"
Sugar on the too-rapid expansion into ten overseas subsidiaries

"Amstrad's challenge is to persuade the retailers to take [its computers] off its hands at a price which does not deepen the company's crisis"
***Alan Cane in* The Financial Times**

"It was a lousy deal"
Alan Sugar on the Micron deal that lost Amstrad £15m

"Some of that [Amstrad's problems] has been unavoidable. But some must have been due to overstretched and over-optimistic management"
***Roger Cowe in* The Guardian**

"I'm no longer going to chase profits to keep the stock market happy"
Sugar in a meeting with City analysts

"The short term objective of the company in good shape... may be a bitter pill to swallow for some investors, since this policy may be at the expense of chasing profits"
Sugar's statement in the year end results

WAREHOUSE CLEARANCE

ZENITH DESKTOP PC

ONLY £299.00 + VAT

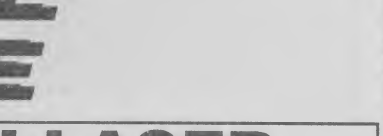
The EAZY PC is designed for people who want a powerful, affordable personal computer that is extremely easy to use. Whether you are running a business, doing school or college work, office work at home, or just playing games. The EAZY PC runs all of todays top PC Compatible software. The package consists of:

★ 84 Key Low-Profile Keyboard. (Audible click on each keypress.)
★ Base Unit that measures only 11" x 14"
★ Powerful NEC V40 processor (8088-compatible 16 bit micro-processor 7.16 MHz)
★ Attached 14" High-Resolution Page white monitor (640 x 400 Chars, 640 x 200 graphics.) with separate brightness/contrast.
★ MS-DOS, MS-DOS Manager, & GW Basic Software
★ 3 1/2" High capacity disk drive (720k formatted)
★ Built-in Parallel Printer Port & Mouse Port (Microsoft compat.)
★ Perfect for wordprocessing, accounts, spreadsheets, databases etc.

ORIGINAL SELLING PRICE £499.00 plus VAT
OUR TOTAL PRICE £354.00 inc Overnight Carrier

EPSON LASER

GQ 3500
ONLY
£650.00
+ VAT



At last, a laser printer that is affordable for the home or small office use. Add to this price the name of EPSON and you can see what tremendous value this offer is.

The EPSON GQ3500 is a quality laser printer with 640k RAM (expandable to 4 megabytes), standard parallel interface, & 7 built-in fonts. Paper delivery can be either face-up or face-down. We have also included in this package, absolutely free of charge, 2 additional Font Cards, and an HP Emulation Card. (Valued at approximately £150.00)

You would normally expect to pay £1100 - £1200 plus VAT for this Laser Printer, but our fully inclusive price of just £759.00 includes VAT & Overnight Carrier.

★ 12 months on-site warranty available with this item.

VISA/ACCESS orders welcome. Prices subject to change without notice. All transactions are subject to our standard conditions of sale, available upon request. Personal callers welcome by appointment. All prices include VAT.
Cheques/Postal orders with order.

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JUST POINT AN

The Interactive '89 show was devoted to mixing computing, video and audio. Andy Storer spent a day with I.V....

Brighton's Metropole Hotel is the annual venue for an expo on all things interactive. This year, 60 exhibitors showed their wares - everything from touch screen technology to voice-driven video recorders being perused by over 2000 visitors. All of the 30 main product launches were PC based, all were exclusively geared towards the corporate user. But beneath the business veneer lies a fascinating insight into tomorrow's technology for today's computers.

Although one could easily argue that all personal computers are interactive systems - all elements of their use entirely depend on a two-way communications interface - it's rather labouring a point. The key difference between the box and monitor at home and the Metropole machinery is the inclusion of multi-media mass storage devices. Stand after stand is full of Sony KXCP1 monitors with touch screen membranes that allow 'point and perform' operations on a bewildering variety of laserdisc and CD Video players. Moving video, CD quality audio, 24-bit colour graphics and text can all reside on a single source disk - interleaved across a half a gigabyte of storage space, each independently accessible.

But it's not just down to larger storage space and multi-format sources - Interactive is about multiple choice decisions. You navigate a series of pathways laid down in code which guide you through the subject at hand. I.T. for two is what it's all about - looking, listening and responding to integrated systems which allow you to obtain information, advice and entertainment in your own time, at your own pace. What's more the software required to author these productions seems to be as easy to develop as the resulting screens are to navigate. It's all very much a question of just pointing and clicking - from writing the software to using the system. When integrated interactive home systems finally become par for the course next decade, we'll all conclude that computing was finally a product of WIMPS.●

• Could this be the personal computer of the nineties ? - 486 chip, six megs of RAM, built-in videodisc and CD quality sound

PRODUCTS

▲ Philips launched its VP310 optical drive. The Omni is a £995 CD drive that will play not only ordinary audio disks, but eight and 12-inch LaserVision discs and 3, 5, 8 and 12 inch CD-Video discs encoded with digital sound. The deck also includes an interface for video overlay and control cards, thus ensuring that you can superimpose computer-generated screens on the picture are to activate portions of the screen by clicking on pixel buttons and icons. The Omni also features full 16-bit sampling capabilities and on-board character generator - making it the ideal multimedia player. Philips is on 01 689 2166

● AMT launched its Speech Development System for PCs - a development tool for incorporating high quality speech into new and existing software. SDS get round the problem of expensive processor-controlled tape-decks by actually emulating the human voice box and vocal tract. The sampling hardware may cost £3000 but the results are impressive. A single sided floppy can hold 24 minutes of recorded speech - a double-sided, high-density disk over 80 minutes! A simple playback module costs only £100, so it could be ideal for training applications, the blind and schools. AMT is on 01 450 3222

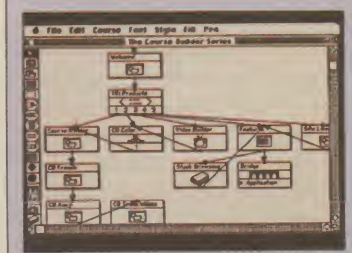
◄ Touchscreens are an important piece of interactive kit as they allow users to easily navigate software without the need for mice or keyboards. Ellinor manufactures a complete range of monitors with touch screen capabilities - it will also convert your own for a price. Touchscreen technology works by placing a transparent membrane over the glass surface of a screen, linked by RS 232 to appropriate software drivers, which converts your finger position to a grid co-ordinate. Response time is so fast that it would be possible for any icon or pull-down menu software to respond to upto 140 touches each second (if you were manic enough). Ellinor is on 0734 311066

◄ New Media Graphics ' VideoWindows board for PCs showed just how far computer and video technologies are converging. Scalable, full motion video can be combined with hi-res graphics to provide an ideal multimedia environment for point of purchase, teleconferencing , presentations and desk top video editing. New Media Graphics is on 0425 472753

PROGRAMS

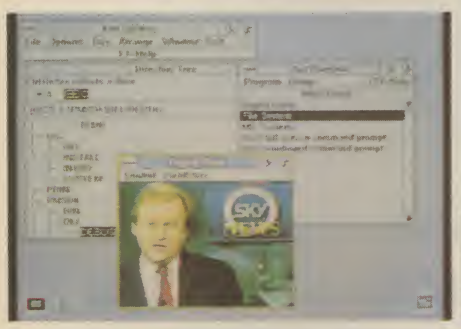
Interactive systems are all very well but what about the software side of things - how do you go about developing multimedia applications for a personal computer ? Here are four programming environments featured at Interactive '89 that provide the essential authoring requirements

▼ Coursebuilder is a graphics based authoring tool for the Mac that allows you to edit and arrange a series of 'contents blocks' depicting interactive routes. Graphics, clip art and scanned images can be imported, animations created and videodisks,VTRs and slide projectors controlled. An author simply draws arrows between icons - these arrows represent conditions that lead a user down a choice of 10 paths. The matrix of possibilities can be as big as memory permits. Courseware can be found on path number 0425 472753



ND PLAY

▲▼ The DVA-4000, from VideoLogic on 09277 60511, is a PC card that provides a digital video adapter allowing full manipulation of live or recorded colour video or TV images, including size, position, brightness, saturation, contrast and hue in real time. It's also possible to capture individual or sequences of frames to hard disk for subsequent processing and playback. PCs equipped with video cameras can be networked to provide on-screen teleconferencing between multiple users - each having their own image in their own window.



PERSONAL

Management and behavioural training are the first areas to have been exploited in a big way. Companies like John Cleese's Visual Arts having realised multi-million pound turnovers on the strength of combining humour with learning, are all moving into the interactive field. The corporate check-list covers areas like

- Negotiation
- Recruitment
- Counselling
- Customer care
- Non-verbal communication
- Assertiveness skills
- Delegation

But away from the dry humour of corporate training lie the new boom areas like

- Surrogate travel - just step in your local travel agents and explore that resort
- Interactive cartoons and films - take control of the bridge and take out that enemy
- Mail-order catalogues - roam the hypermarket of your dreams
- Remote galleries - browse New York's finest exhibits without an American in sight!

PROJECTS

Interactive systems are in use in all areas of industry, leisure education and art. The main applications are for

- Information points • Management information • Dealer product training • Procedural skills • Interpersonal skills • Visual catalogues • Software simulators • Health and safety • Museum and gallery exhibits

These may be delivered on the format of

- Interactive video disc • Interactive audio • Interactive compact disc • Interactive video tape

and be displayed on

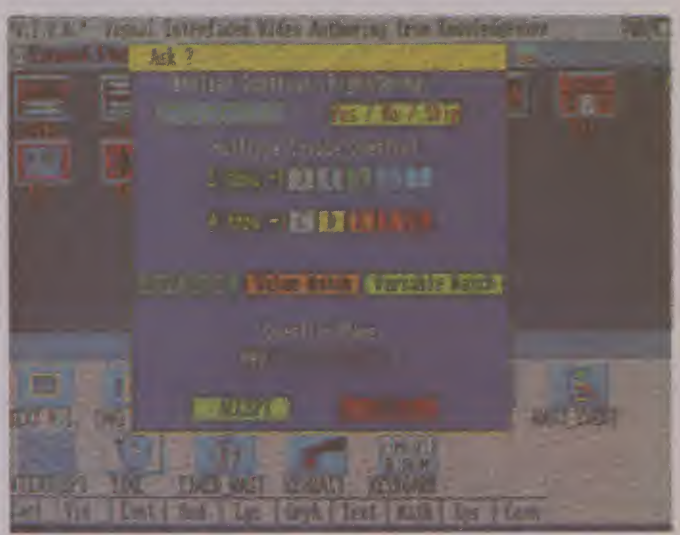
- Monitors • Overhead video projectors • Vidiwalls

PLANS

The EEC-sponsored Esprit project was initially set up in February with a £2.6m budget to develop the next generation of CD ROM authoring workstations. Currently, CD ROM is by far the cheapest method of storing and distributing large databases of text, graphics and images - one megabyte of data costs only 0.015p to produce, as opposed to £1.05 on floppy and £6.25 on hard disk. But the optical storage arena is split three ways. There's the competing media of CD-I, the 'I' standing for interactive, which adds sound and video and was originally intended for the home entertainment market, and then there's DVI. Digital Video Interactive relies on a mini-computer to compress each picture down to 5K instead of the 1Mb required on a CD-ROM enabling the CD to be used for up to one hour of moving video.

So, the Esprit project is looking to bridge the three formats to exploit the best features of each. Expert systems are being employed to develop the relevant tool kits and a pan-European voice,data and video comms network has been set up to enable assorted development teams to work in harmony. The first integrated workstation is hoped to be completed by mid 1990 with the express intention of hiding the complexities of optical disc technology from the user - be they the publisher, creative designer or end-user. The solution is to provide simple visual tools to enable a user to capture and organise all sources of material - the means being supplied by authoring systems which rely on film-style storyboards and scripting.

◄▼ IBM's Linkway is the company's *HyperCard* clone for the PC. It's a mouse driven application that allows a user to combine text, graphics and still pictures while accessing music, speech, CD ROM and video disk media through icons. *Linkway*'s still in its infancy though it points the way ahead for IBM's thinking on a new interface for the 90s. Gone are the MS-DOS meanderings; here are associative, button-linked applications you build yourself. The system is completely compatible with existing PC applications - Linkway buttons can be easily configured to take a user straight into other software - on termination the user is returned back to Linkway. More info on 01 747 0747



▲ Viva is an interactive software tool that allows a producer to create information environments drawing on the excellent video, sound, colour and graphic capabilities of the Amiga. Fully icon-driven, *Viva* works on the concept of 'frames' for an interactive storyboard. Along with speech, database and expert system capabilities, the software can also trigger videodisc and CD players, genlocks and digitisers. This remarkable system is also portable - any *Viva* script written on an Amiga can be ported over and executed on the Mac and PC versions. It's available from Michtron on 0101 313 334 5700 for between $199 and $599 depending on the version.

● PS-Dialog is a language for developing interactive PC applications from AIT on 0491 579272. It's used to create EGA or VGA applications handling touch screens, mice, printers and memory cards. Graphics images can be imported and an efficient command list determines screen co-ordinates for text, graphics and touch areas.

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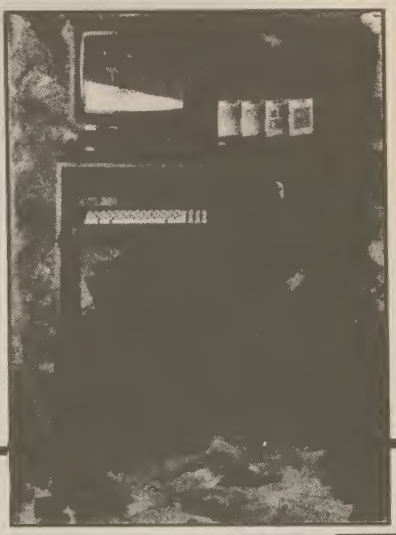

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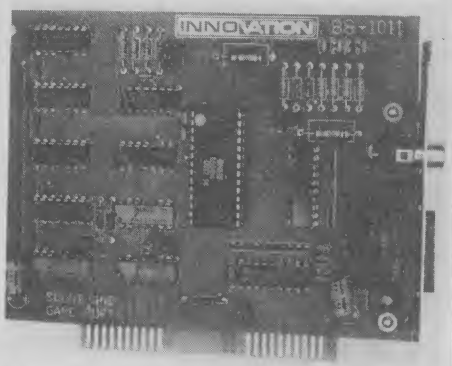
SOUND SYSTEMS

Quentin Mobray tries out a PC board which adds sound and joysticks at a reasonable price

INNOVATIONS SSI-2001
• PC • £75
• Compusoft • 0734 351789

The IBM PC was never really designed as a games computer. Especially lacking are quality sound effects, unlike its 16-bit counterparts the Atari ST and Commodore Amiga, and with software and limited add on packages costing almost twice as much, it has been a hard up hill struggle for the PC in the already overcrowded games machine market. But now American company Innovations has produced a range of add ons at competitive prices to help overcome this, one of these being the SSI-2001 sound board.



• Innovations's sound board offers realistic games on the PC at a reasonable price

One of the problems in the past with add ons for the PC has been trying to get the agreement of software houses to develop software that can run with the package. It appears that this is a problem that the Innovation SSI-2001 has overcome when you look at the vast range of household-name software companies that support this board – for example Microprose with its *F-19 Stealth Fighter, Red Storm Rising* and the recently launched *M1 Tank*, Activision's *Enchanted Lands* and *Time Rift* and many other software companies like Microdeal, Software Toolworks, Mindscape and Electronic Arts.

The sound produced is equal to that of the Atari and Amiga as it utilises the Commodore 6582 SID integrated circuit. This well-established chip enables the generation of three simultaneous voices of music or sound effects, giving a vast scope for real-life sound from music tospeech synthesis.

The SSI-2001 is a half size card that is easily fitted into any PC expansion slot. One of the nice things about the board is that it also holds a game port controller capable of supporting two joysticks (with a Y cable) The game port also has three adjustable levels of sensitivity.

If you are looking to add sound to your PC at an economical price then this could be the board for you. However the WYSIWYG principle does apply in this instance – for your £75 you get a get mono board with no software and limited instructions. It is worth noting that you do need an external amp and speakers to get any benefit from this rather effective board, unlike its more costly rivals . But with it it is possible for the computer literate to produce voice and music and with the aid of another identical card stereo is possible.●

SEQUENCE OF DELIGHTS

Sampling sounds is nothing new but what can you do with them? Mark Higham finds out how Quartet lets you compose four-track ditties using sampled instruments.

QUARTET
Atari ST • £49.95
Microdeal • 0726 68020

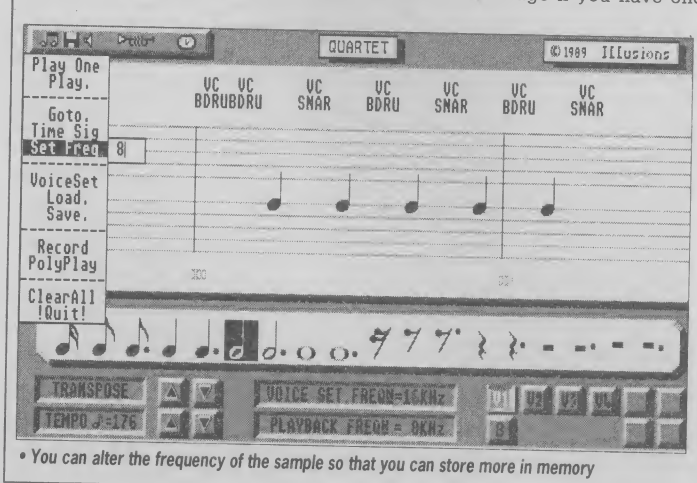
Just about anyone with half a brain has released a sampler by now but when you've heard your ST playing Bing Crosby once, you've heard it all. There's certainly no way you could turn a sample of good ole' Bing into a Bon Jovi hit - you need a composing tool to do that and *Quartet's* the job.

You can compose music using sampled instruments but what's really impressive is the way you can have four channels playing simultaneously. When you load *Quartet* you're given a main screen, consisting of an empty stave and a handful of icons. Using these you select which voice should be displayed at any one time. Alongside the voice icons are a series of notes from a hemi-demi-semi-quaver to a dotted semibreve. By selecting one of these notes and clicking on the stave, the note will be placed in the score - the left mouse button replaces an existing note (for editing) while the right mouse button inserts a note.

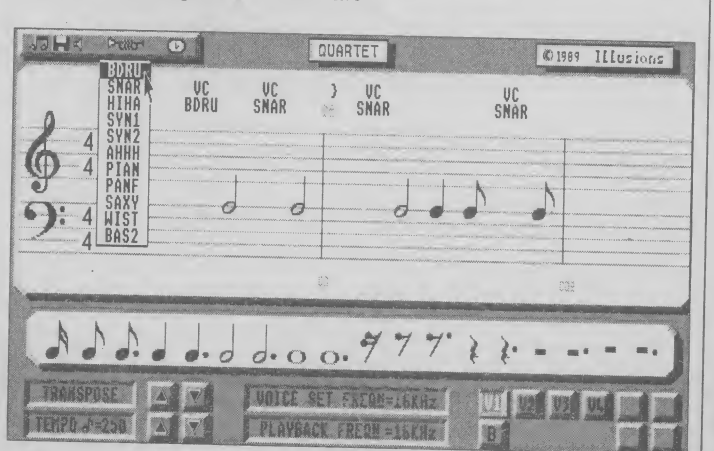
At various points in the stave you can switch instruments so you could, for example, create a backing drum track and work the other three voices over the top of this. There are 11 instruments provided with *Quartet*, although you can import additional sampled instruments so there's no reason why you can't have more than this number. If you really want to make the most of *Quartet* then you can even set it to record MIDI input from a keyboard. The notes will be recorded as you play and you can choose which instruments are to be used in the playback.

When it comes to editing the tracks, you can select to play either one voice at a time - in which case the currently selected voice will be used, or you can play all four voices at once and listen to the complete track. By pressing [F2] during playback you can direct all output to a Replay cartridge if you have one. With an extra program provided on the *Quartet* disk, you can even include sequences into your own programs.

What's particularly exciting about *Quartet* is that you don't need any musical knowledge to have fun with it. However, if you want to use it seriously then it is capable of the same kind of results as an Amiga. It's not ridiculously complex to use but it is capable of some brilliant results which make it a must for music enthusiasts. As yet, there's no other package available on the ST to touch it.●



• You can alter the frequency of the sample so that you can store more in memory



• Quartet lets you use up to 11 different instruments in a composition

EXPRESS MAIL

Dear Reader

Another collection of comment, controversy, compliments... and Rob Ainsley's replies. Have you got something to say? Make your voice heard in computing's liveliest letters page! Send your contributions to: Express Mail, 4 Queen Street, Bath, Avon BA1 1EJ

PS. Sorry, but we just don't have the time to give personal replies, whether you include an sae or not. We're too busy putting Express together!

DISAPPOINTMENTS IN PROGRAMMING

As a graphic artist working freelance within the software industry, I am writing to offer some advice to those young people who may be considering starting a career in this field: don't!

Every year scores of young programmers, artist and musicians approach development houses and publishers, drawn by the chance to see 'their name in lights', their product on the shelves, their pictures in the magazines. They're fed constant stories of the programmer as a 'folk-hero', and mythical tales of whizz-kids, driving Porsches, waving gold cards and equipped with infinite street-cred pokes. I have actually seen people waving gold cards and driving Porsches, but they weren't the programmers.

Showtime just reinforces these myths, the huge, flash, (and incredibly expensive) stands suggest that the industry's walls are papered with ten pound notes.

Every year scores of young programmers, artists and musicians are ripped off by development houses and publishers offering paltry sums tied to incredibly biased contracts (if you are lucky enough to get a contract at all). Don't think that it won't happen to you, it will, there is no question about it. Of course the companies doing it to these kids don't mind, because they know that there will be another crop of young talent along soon.

This brings me to my second point, namely that the industry seems to be built largely on exploitation. The attitude seems to prevail that freelancers and small developers are fair game. The sums paid out may seem a lot to a teenager working in his bedroom, but they don't pay a mortgage and they don't clothe children.

The amount of money put into advertising and the aforementioned shows suggests that there is money being made by the producers, but it isn't getting back to the people who make it all happen, the small independent software author at the bottom of the heap.

OK by now you're thinking that this guy is some failure who can't get any jobs because of his appalling work, and he's decided to vent his frustration by screaming at your letters page. Well you're wrong; I'm frustrated alright, but not for those reasons.

I've been working in the industry for getting on for three years, since when I have achieved a consistently high standard in my work producing a good product, on time. This is witnessed by the fact that during all that time I have only been without work for six weeks or so. Most of my work has had above average reviews.

However, at the moment I'm owed money by a lot of people who think the freelancer doesn't matter, having a contract doesn't mean the companies are going to pay up. Look what happened to Software Horizons. Of course you could take them to court (I have done in the past) but that takes time and sours relations with other sources of work if they hear about it. Surely nowhere else would anyone have to wait for anything up to six months to be paid after fulfilling a contract, or not get paid at all. No other industry treats its professional workforce with such contempt.

At the PC show there were probably only 30 or so programmers – the rest of the crowd were middle men making a good living on the backs of the people doing the real work. That situation seems to sum up what this whole business is about.

I'm not dumb enough to believe that writing letters is going to change this situation, but I hope that this will warn off at least some of the potential victims of the corporate sharks.

Sorry not to put name and address but I'm in the middle of projects and if the publishers found out I might be in the mood to stop trading, they would be difficult to get final payments out of and if I keep going, any future contracts might be difficult to get.

A programmer

• You didn't mention any specifics in your letter, but if you'd like to get back to us with names and figures, we'd be interested in pursuing this further – all in strictest confidence, of course. Meanwhile, how about an employer's view on this?

MONEY MATTERS

After seeing an advert in your magazine I ordered *WEC Le Mans* for the Amiga from Homesoft UK at the beginning of May and payed by cheque which was cashed. After reading in *Express* that the software firm had gone bust at the beginning of August, I phoned to change my order and was told to put it in writing - which I did. The next week Homesoft went bust.

Before I knew they had gone bust I tried phoning them but got no reply so I phoned the Trading Standards Office and I have just received a report from them saying there is no chance of retrieving my money and they suggested that I try you to see if I can get compensation from *Express*. The price of the game was £15.10.

B Page, Bispham, Blackpool

Can you help me? A computer firm called Homesoft (UK) has £22.60 of my money.

L A Munson, Aylesbury, Bucks

• I'm afraid not. It seems from the investigations of the Trading Standards Officer that the company has gone bust owing a lot of money. I'm afraid there's no way we can reimburse you either – in fact, we're still waiting for the money for the adverts that Homesoft took out.

MATTER OF FRACTAL

A few months ago in a copy of *Scientific American*, there was a series of articles concerning fractals, one in particular containing the Slo Gro Fractal Algorithm, as well as an algorithm to plot the Mandelbrot set. I have been unable to obtain these articles and would be extremely grateful if you could print my address in case anybody out there has these articles.

James Melia, 46, Churncote, Stirchley, Telford, Shropshire TF3 1YL

• We've no idea, not being able to afford Scientific American, but I'm sure someone out there can help you. And if anyone does find out who's behind the Slo Gro Fractal Algorithm, send us their address, and we'll send them a dictionary.

PILOT LIGHT

With reference to Stephen Mercer's letter (Express 48) regarding Digital Integration's wonderful *F16 Combat Pilot*.

I too was wary of the noise emanating from the floppy drive when loading. Then recently, while loading the aforementioned program, the drive after making the usual noise, came to a grinding halt.

I would therefore like to hear DI's reaction to this, as I hold the protection used on their software wholly responsible for the demise of my drive. When you consider that a replacement drive is going to cost me in the region of £200 (due to the fact that only Commodore supply the drive used in the A500) I am sure that you will agree that this was quite an expensive lesson.

I would also warn fellow Amiga users to bear in mind what has happened to my machine before using/ buying the program, while the ridiculously heavy protection exists. I am sure most users would prefer to use the password method, this would also make it possible to install the program on hard disk, as with *Balance of Power 1990*!

Please DI, let's have software that doesn't destroy the machine. Surely simulations are meant to remove the element of danger associated with the real thing.

M Harper, Rotherham

• It would be interesting to see if you could successfully bring about claims for damages against Digital Integration, if you could prove that their copy protection had in fact killed your drive, not that of course I am suggesting it could have done, and retract this vile slur immediately. Perhaps Digital Integration would like to tell us their side of the story?...

DRAGON ON AND ON

I regularly read *Express*, and on reading your article Second Hand News by Jerry Glenwright, Issue 47, I was dismayed to discover that my faithful Dragon 64 is only worth £35. No Way! It might be five years old, but it has given me no trouble, and does that which I require of it.

It does not need a dedicated datacorder, any reasonable tape recorder will do, it does not need a noisy, dedicated disc drive, it will use any Shugart standard drive. Small memory? How much can you get on four double sided disc drives of any size. Yes I know that the text and graphic screens leave a lot to be desired, but available software overcomes that (how does a 64 column WYSIWYG word processor grab you), and I can use any Centronics printer. Add several active User Groups Shows and you have a tried and trusted computer. £35? More like £200 plus.

PRIZE LETTER

I was surprised at your offering a prize for the first person to define 'ten situational awareness buzzwords' (*Express* 49). They are very easy to define.

1) Apex - Ill fated successor to the QL. Featured fast loading via an 8-track stereo cassette.

2) Bugout - Enabling program allowing 90% of all Amstrad games to be played on an Amstrad Computer.

3) F-pole - Broomstick Flight Simulator; of little interest unless you are a witch.

4) G-loading - loading of previously turbo saved discs. The 'g' stands for the resultant gibberish.

5) Pump - *PUblishing, Master Plus*. Versatile DTP program allowing totally unreadable full page adverts to be produced for *Express*.

6) Pre-merge - DOS command allowing simultaneous loading of word processor and game programs. Allows Batman to be played as a text adventure.

7) Bogie - Static pixel on outside on screen. Normally brown and of irregular shape.

8) R Max - Plug in module for PC compatibles. Reduces RAM to 256K maximum, disables drives and allows PC to be used as a game console.

9) Generic strobes - Enables laser printers to achieve equivalent of nine-pin dot matrix draft quality print.

10) Kinesthetic cueing - Reissue of classic *Hurricane Higgins Snooker* game.

TRE Ford, Chester

• Dash it all! OK, you win. Tell us what computer you own, and a crack team of SAS men with portable NCubes will deliver your mystery software prize personally.

Come on all you Dragon owners and, let's ask for our own column in *Express*. If MSX and others can do it, why can't we?
F Fisher, Gillingham, Kent

• If anyone out there does want to give Mr Fisher £200 for his Dragon, I can put you in touch with someone who can sell you a C5, an eight-track cartridge player and a Betamax video recorder for just £1,000 the lot.

SHH... YOU KNOW WHO

In a perfect world we would all own an ST or an Amiga but alas there are those who think that dead-flesh keys are the norm. If I owned an oddity I think that I would keep quiet about it.
DP Hackett, Penilee, Glasgow

POINTS TAKEN

1) Thank you for publishing my letter on the TT in issue 48.

I suppose your enigmatic answer was a sort of vague agreement. I know my letter was too long - they always are - but I think you could have made my point about the TT being ST compatible.

If you want to run ST software, you might as well buy an ST - it will be years before they become unsupported, like the Speccy – and spend the rest on software, an investment in Barlow Clowes, a donation to the water advertisement funding campaign etc.

2) I have no sympathy for WH Alexander (Letters, *Express* 48).

As a Beeb owner, I too have to stand the Hitler-style prejudices of ST/Amiga owners. And if I can take it....

3) I thought it was ironic and sad that you restarted using bleached paper (in issue 48), which you made such a fuss about dropping back in issue 32, when in the same issue you had an article about "Green Computing."

4) Does the Beeb Box also cover the Acorn Electron – strictly speaking it shouldn't, as that is an Acorn machine.

5) Your comment that Tony Benn owns a Beeb (Express Listings 48) is I'm afraid incorrect.

According to BBC Acorn User of February this year he owns seven – including a couple of Masters.
J Benson, Bedford

• 1) Yes, I suppose it was.
2) Well, I wouldn't describe ST/Amiga owners as having Hitler-style prejudices. Until they start invading Poland and winning the Nuremberg rallies I'll give them the benefit of the doubt.
3) Issue 48 was on the same non-chlorine bleached paper as 47 was and this one is, you wally.
4) OK, strictly not, but we don't mind if it does.
5) We neither specified the number of Beebs, nor stated that he 'owned' any. If you must make pedantic points, make them about things we said, not things you thought we said!

NO JOY

Recently, I bought an Amiga and a few games – I also decided to buy a joystick at the same time.

So I bought a Quickshot II Turbo. As soon as I got home I tried the joystick, but it would not go right, up or down, only left.

It had QC passed stuck on the bottom. So I returned it to the dealer the next day and the nice man gave me a new Quickshot II Turbo.

I went home expecting it to work but it stuck to the bottom - no up, only left and right.

I then went to Silica Shop – the man with the red beard gave me a new one even though I had forgotten my receipt. It worked perfectly.

I then took the Quickshot II Turbo back to the dealer from whom I got it from. He then gave me another one and satisfied it would work I went home. It didn't. It would go up and down, but not right, only left.

I returned it for the umpteenth time and got another Quickshot II Turbo. I am now the owner of a joystick that will go in all the directions but fires if you try to go left.

All the above mentioned sticks had a sticker saying 'QC passed' stuck on the bottom.

Quality Control passed by whom? Margaret Thatcher?
R Barreto, Brixton, London

• Hmm. Perhaps the 'QC passed' sticker means:
a) The quality control staff were rat-arsed on sherry;
b) The company's barrister is on hand to rebutt allegations of shoddy workmanship; or
c) Quentin Crisp deemed them fit for sale, but with such a limp wrist he couldn't test them properly.

LOW DEFINITION

Some definitions for the 'ten situational awareness buzzwords' in issue 49.

Apex
Given on the cheek, usually by one's spouse
Bugout
Insecticide or ant-flap
F-pole
Expression used by BT engineers when the thing won't stand up
G-loading
Comment by American on seeing an Amiga boot up at the third try
Pump
Plimsoll or training shoe
Premerge
Sex drive (sorry, that's 'prime urge'). It should read 'before joining' (which is almost the same thing)
Bogie
Solidified snot
R-Max
Mr Bygraves
Generic strobes
Elderly flashers
Kinesthetic cueing
A relative appreciating your superb snooker playing activities
J Trollope, Alness, Ross-shire

• I think you're just nudged out of first place by Mr Ford's definitions — but congrats on a good second.

THRASH IT OUT

The tall and the short of it is that the RISC based Archie doesn't thrash the Amiga, they both are as good as each other with their capabilities canceling one another out.

It would be unfair to say that the Amiga has the edge with software support because no software has yet pushed either machine to anything like its limits (well, game-wise anyway).
H Van Wijk, Brundall, Norwich

• Well, it'll be interesting to see how the Archimedes market grows over the next year.

Looking at this week's article on the Archie on page 16, I must admit, I think the tide is turning for Acorn's machine software-wise. I'd buy an Arc rather than an Amiga if I had the money, though as I'm not a mad keen games player others may well disagree.

RIGHT TO REPLY

I would just like to take this chance to reply to Peter Calver's letter concerning software piracy in *Express* 47.

A user group and its owner are two separate entities – similar to a limited company which is able to be sued as a 'person' in its own right.

Providing the owner of the user group does not allow the group to be involved in any of their less savoury practices (the previous example I gave was that of using the club to find new people to swop pirated software with) the two may be treated as being entirely separate.

In other words, if the Federation Against Software Theft, FAST, decided to pay the owner a visit, they would only be able to collar the owner – only in his capacity as a private individual – and not the club as it would be guilty of nothing.

He makes the analogy of a landlord allowing drug abuse in his pub because if he doesn't, the customers will go elsewhere.

This has absolutely nothing to do with the point in question, but I will use his analogy to clarify the situation further.

The landlord would be perfectly justified in not allowing drug abuse on his property, regardless of the financial loss he would make when customers left to use other pubs.

This comparison is not valid to the point however. I have already said that the club not be involved in any illegal or immoral activity.

What if the landlord closes the pub for a night, goes into town and attakcs an old lady? Would the police turn up, dig out the foundations of the pub and move it brick by brick to a nice cell for the night?

No. The owner, in his capacity as a private individual – not as a landlord – would be in the cell.

Perhaps I did not make myself clear enough, or perhaps my point was just a little too subtle for Mr Calver to understand, but this is the crux of the situation.

Now let me make it absolutely clear: I never said that software piracy was right, nor do I say so now. I do say that it is easily justifiable by some people and that, unfortunately, it is a fact of life.

A user group that does not allow piracy etc. will not stop pirates all. As I said previously, they will just go out and find another club or another method that allows them to do it.

That's not to say that clubs should allow such behaviour; after all, someone has to be responsible for setting moral standards somewhere.

My final observation is one that I think would help to stop the greater evil of corporate pirates – companies that have a single user licence but that make literally hundreds of copies.

Perhaps a system whereby the software company not only guarantees confidentiality but that also pays some sort of reward (perhaps even a percentage of damages won or enforced licence fees) would perhaps discourage company piracy more than an education campaign.
P Bocij, Derby

• Hmm; an interesting suggestion. I'd be curious to see what Microsoft or Ashton-Tate or Lotus think about giving rewards to people who 'shop' pirates. We might see a new breed of bounty hunter emerging, which seeks out and exposes company pirates.

Would a Batman or Superman of the 1990s actually spend most of their time chasing the Penguin slyly running off fifty copies of Lotus 1-2-3 when his site licence only extends to five, or Lex Luther and his underground WordStar Duplication Factory in Hong Kong?

FINAL WORDS

Thanks for your piece on viruses (*Express* 49). I have been very impressed by the even handed coverage in your magazine of the virus business, in contrast to the hype of the media.

The article in the Star was so sensational as to be ridiculous. 'Britain on the blink' indeed!

I was sorry to see that the Blind Institute lost data, and (having lost data myself through disk corruption) know to my cost how much time and money it can mean.

But that apart, it is clear from the Friday 13th experience that the worst threat to society comes not from the virus writers, but from the tabloid writers!
David Alston, Southampton

• Well, maybe. It's quite legitimate for a paper to make a story – after all, we gave just as much coverage to the virus business. But scaremongering and setting off shrill false alarms is not justifiable. Panic stations writing like this does no-one any good.

...SNIPPETS...

A JOKE, I THINK

Q. How many ST owners does it take to change a light bulb?
A. 15 – 1 to change it, and 14 to carry out the research... (Yes I do own an Amiga)
Ian Foster, Huddersfield, Yorkshire

Q. How many solicitors does it take to change a light bulb?
A. If you're asking for my professional advice it'll cost you £50 an hour.

WHOLE NUMBERS

As a robot, I find your human race amusing. Douglas Adams claims the answer to life is 42. Any robot knows it is in fact 41.927...
Daneel Olivaw

• No, it must be an integer. Like food, good numbers should be natural and whole. ('Robot' my walking frame. We know it's you, Steve.)

FUNNY YOU SHOULD SAY THAT

When are you going to have another 'New Computer Excess' joke supplement? The last one was hilarious...
Roger Batty, Oxford

• Amazing you should say that. It's going in next week, as part of our one-year celebrations.

BEGINNERS PROGRAMMING

Writing your own programs is easier than you think, even if you're a total beginner. Michael Allerby answers your questions...

Q. WHAT IS A COMPUTER PROGRAM?

A. Basically, a sequence of instructions, just like a recipe or piano roll. If you think of those old pianolas as the musical equivalent of a computer, the piano roll is the equivalent of a program. The effect is to play a tune, but the instructions themselves are just notches on paper. Similarly, the program itself just consists of a sequence of blips representing 1s and 0s.

Q. HOW DO YOU GET THE COMPUTER TO DO WHAT YOU WANT?

A. Suppose you want the computer to print 'Hello' on the screen. To the computer, the instruction that makes it do this might be a sequence of numbers – 45, 65, 23 and so on. This is machine code. Obviously this would be tedious to do all the time, so there have evolved various computer 'languages'. In one language, the command to print the word 'Hello' on screen might be PRINT "Hello", and in another, PRINTF ("Hello"/n). The language then takes care of the 'translation' into numbers for you.

Q. HOW DO YOU WRITE A PROGRAM?

A. By preparing a list of your commands as a normal text file in a word processor or text editor. A simple program to calculate VAT on an amount you type in might be in BASIC

```
10 INPUT amount
20 VAT=amount*0.15
30 PRINT "VAT on this is";VAT
```

The line numbers are there to tell the computer in what order to take the instructions. In many languages there are no line numbers and the sequence is taken in the order it appears in the file.

After you've prepared your program like this, you run it through a compiler (if the language is an interpreted one) or compile it (if the language is a compiled one).

Q. WHAT ARE 'INTERPRETERS' AND 'COMPILERS' THEN?

A. An interpreted language translates each command as it turns up. A compiler 'translates' the whole program into machine code and then runs it.

Q. WHY ARE THERE THE TWO SYSTEMS?

A. In an interpreted language, developing a program – ie, writing and testing it bit by bit until it does what it's supposed to – is easier. You can stop the program in mid-stream and type in an extra line or adjust the next one just before it is executed, then carry on, because the interpreter works one instruction at a time. With a compiled language, every little adjustment requires you to re-compile the program before you can run it and see what effect it has. This can be really tedious. On the other hand, compiled programs run a lot faster,so it's better from the user's point of view if commercial software is written in a compiled language.

Q. WHAT'S ASSEMBLY LANGUAGE?

A. If you like, assembler, or assembly language, is halfway between machine code and a normal language. Printing just *a single character* in assembler might look like this:

```
wrtchar   move    d0,-(sp)
          move    #con,-(sp)
          move    #conout,-(sp)
          trap    #bios
          addq.l  #6,sp
          rts
```

Only really clever people use assembler. The advantage over a normal language is that it can be a lot faster, and you have more control over just what each individual bit of the computer is doing, so some commercial programs (graphics routines and games, for example) are better written in assembler. There's no need for the beginner to worry about it at all.

Q. WHAT SORTS OF LANGUAGES ARE THERE?

A. The most popular is the interpreted BASIC, or 'Beginners All-purpose Symbolic Instruction Code'. Though designed as a beginners' language, it's evolved so much that it's a perfectly legitimate language now.

Other popular languages are C (a compiler used to write many commercial packages) Pascal (another compiler) and Logo (an interpreter originally written to teach children programming).

Q. HOW MUCH DOES IT COST?

A. There will probably be a free version of BASIC with your micro, so it's probably the best one to start on. Languages cost anything from £20 to £100. You'll have to get a manual as well; there isn't space here to list any but your local bookshop will be full of them. A good BASIC manual would only cost you a tenner or so.

Q. WHAT CAN YOU WRITE WITH THEM?

A. Anything that can be done on a micro. Games, accounts routines to run your business, purpose built databases to store and manipulate information about your customers or club members, educational programs – anything, and it doesn't really matter which language you choose.

Q. CAN YOU SELL PROGRAMS YOU'VE WRITTEN?

A. Yes, and many people do, though you might have problems if you used an interpreter such as BASIC to write it. To run the program, users will need the same version of BASIC. You can't give them a copy or you'd be breaking the licensing agreement, of course. You're best sticking to versions that come free with the machine. With compiled languages there's no problem; you just sell the compiled .COM or .EXE file or whatever and users run that as per any other program.

You can either sell them yourself, through mail order perhaps, or send them to a software publisher who would market them for you. Probably your best chance of making any money out of a program you've written is if it fits some special professional niche – a utility for accountants that you know doesn't currently exist, perhaps, or that special train spotting program you wrote because you couldn't find what you wanted commercially.

Q. WHAT'S THE BEST MACHINE TO BUY IF YOU WANT TO PROGRAM?

A. Any really, but there are probably more languages available – especially the sort of languages that you'd use in a commercial programming environment such as COBOL, UNIX and so on – for the PC and perhaps ST than any other machine.●

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UNDERNEATH THE ARCHIES

Often maligned as the gap in Archimedes marketing, the Archie software industry continues to grow apace. Arch supporter Bertrum Carrot takes stock as the Archimedes comes of age...

In between the impressive Greek canapés at the original launch of the Archimedes, there was a lot of excited talk about the machine's potential, and precious little in the way of applications written for it. Acorn had handed out development machines to a selected few, including Minerva, Clares and Computer Concepts, but in the main there were spectacular graphics demos and a few hastily ported packages.

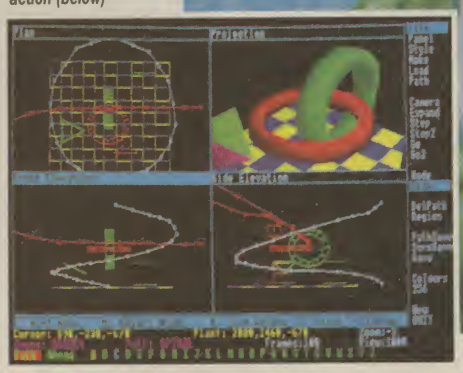
This start was to an extent fuelled the press byline 'nice machine, shame there's no software for it'. Software has been slow to come, partly due to Acorn's concentration on the machine for educational use.

More importantly though programs written specifically for the Archie and its multitasking operating system RISCOS, are big, serious applications which need time to get right.

Acorn's 'jousting tournament' stand at last month's PC Show demonstrated admirably that things are at last changing. A wealth of new software was given it first showing and convinced plenty of die-hards there was actually life in the machine. A parallel can be drawn between the growth of the Archimedes market and that of the Amiga, which started life in much the same way and is only now, several years after its launch, being taken up as a mainstream home personal computer. As ever, a price cut from the boys at Cambridge could provide the extra kick needed to boost the Archie into the same position.

• *Pro Artisan from Clares is one of the many excellent new graphics packages (see right).*

• *Silicon Vision's Film-Maker animator in action (below)*



Tasks for multi-taskers

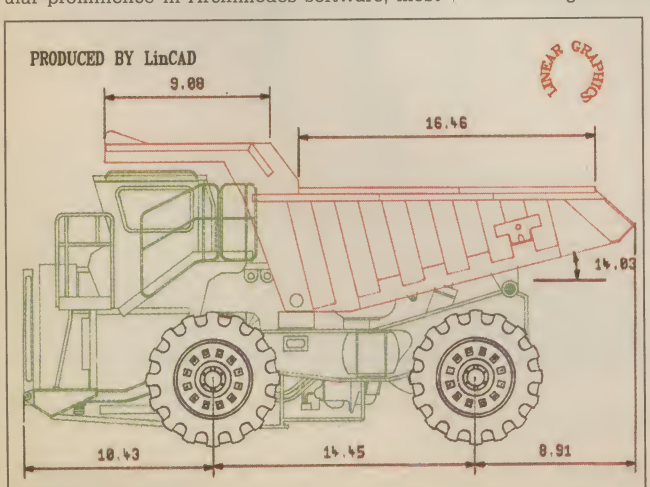
There are now over 550 commercial programs specifically written for the Archimedes. They cover a wide range of applications, with particular emphasis on education. There are also thousands of programs available for the BBC micro and IBM PC, the vast majority of which will run on the Archie. The PC emulator is needed to run PC applications, but the Beeb emulator is supplied with the machine.

Several areas of application are showing particular prominence in Archimedes software, most reflecting the machine's strong hardware features. Graphics programs have featured well from early days, and recent releases include *Atelier* from Minerva and *Artisan Professional* and *Artisan 2* from Clares. These products use the full colour range of the machine and include sophisticated effects like colour masking and graphics wrap. Clares also market the *Render Bender* ray-tracing package and there are several video accessories like genlocks which can be slotted into the back of the machine as podules.

New products on the sound front include the *SoundSynth* and *Studio 24 Plus* from Electromusic Research, as well as MIDI podules for control of other instruments. Armadillo Systems also produce a range of music products, including stereo sampler cards and the modular *HighNote* music software.

Desktop publishing is another area that's flourishing. As well as Acorn's own DTP, there are new products from Computer Concepts (*Impression*), Clares (*Tempest*) and BEEBUG (*BEEBUG DTP*). Of these, *Impression* will probably be the most sophisticated, though its yet to be released in its final version. On a related theme, CAD packages are beginning to appear, with *LinCAD Archimedes* a major contender.

Acorn's set of scalable fonts and system-wide printer drivers mean that any properly written RISCOS program can produce high quality output on the majority of popular printers including dot-matrix and lasers.●



• *A big truck from Linear Graphics' LinCAD drawing package*

DISARMING FACTS

• The Archimedes was launched as the world's fastest personal computer, rated at four million instructions per second (MIPS). The new ARM 3 chip, produced in California to Acorn's design, is about three and a half times faster. It can be added to existing Archies, leaving the upgraded machine still comfortably in the lead.

• A lot of early Archimedes software, including the *Paint* program original supplied with the machines by Acorn, was written in BASIC. Archimedes BASIC can, in some instances, run nearly as fast as machine code does on the BBC micro.

• The Archimedes is a full 32-bit machine - the nearest rival in the PC market being the 80386 processor found in top-end IBM compatibles. 80386s are only barely as fast as they use a Complex Instruction Set (CISC), and can cost over six times as much as an A3000.

• All Archimedes micros have 20 screen modes, ranging from two colours at a resolution of 640 x 512, to 256 colours at a resolution of 640 x 256. Each pixel can be individually coloured from a palette of 4,096 colours and the maximum screen memory for a high-res screen is 160K. On the 400 series Archie, you can have 256 colours at full resolution, taking 320K!

• The Archimedes sound system has eight voices, each of which can be played in mono or stereo. The A3000 was the first home micro to include stereo speakers inside its case.

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THE SHOPPING EXPRESS BUYER'S GUIDE TO 60 TOP GAMES

After you've done the days database work or finally finished that wordy WP article, and you're looking for some fun then the choice of games for your machine is enormous. Whether it's mindless violence or nail-biting strategy there's a whole world out there just waiting to be booted. This week, *Express* brings you the definitive guide to the top games on your machine to suit all tastes.

ST GAMES

● CARRIER COMMAND

Rainbird 0666 504326
£24.99

Compelling strategic shoot-'em-up with you in charge of a 200mph aircraft carrier of the future attempting to take control of a vast volcanic archipelago. Fly jets and drive amphibious vehicles simultaneously while colonising the territory and supplies of the
enemy

● STARGLIDER 2

Rainbird 0666 504326
£24.99

Solid 3D extravaganza which can be played either as shoot-'em-up or strategy with you looking for the parts to build a neutron bomb as you fly around an alien system encountering all manner of alien life. Features some of the best filled vector animation on any home micro.

● KICK OFF

Anco 0322 92513
£19.99

Excellent soccer-sim with furious, wellrad ball control putting it in a class of its own. Play against a friend or the computer in five levels of competence presented with opportunities to compete in The World Cup and practice the skills needed to beat all comers.

● DUNGEON MASTER

Mirrorsoft 01 928 1454
£24.99

Arguably the best graphic adventure to have appeared on any machine, *Dungeon Master* takes you into a catacombed world of adventure and peril. Fourteen levels of surprise and puzzles with only four companions to help you survive.

● XENON 2

Imageworks 01 928 1454
£24.99

Much hyped but nevertheless superb shoot-'em-up with the accent firmly on attack. Six levels of mutant aliens just dying to get taken out with you at the controls of a modular spacecraft with almost enough weaponry to drown out the sound of the Bomb The Bass soundtrack

● FALCON

Mirrorsoft 01 928 1454
£19.99

Superior F-16 flight sim, now with an additional mission disk, featuring multiviewpoint combat tasks with smooth graphics and superb control. Perhaps not a stickler for realism but immensely playable and nevertheless convincing

● PURPLE SATURN DAY

Infogrammes 01 364 0123
£19.99

Five in one strategic shoot-'em-up from the same stable as *Captain Blood* and exhibiting all the same French polish in the graphics and audio departments. Each of the five games would be worth almost twenty quid in their own right.

● VIRUS

Firebird 0666 504326
£19.99

First solid 3D game to really harness the power of the 68000 - smooth, fast scrolling shoot-'em-up with brilliant graphics in which you guide a hoverplane over a archipelago world being infested with pestilence by a variety of alien craft.

● BALANCE OF POWER

Mindscape 0444 86545
£24.99

Challenge your ST, or a friend, to global domination in the ultimate ST strategy game. A fascinating insight into geopolitics with you playing either the USA or USSR in a five year span of policy-making as you attempt to defeat your opponent without causing Armageddon.

● POPULOUS

Electronic Arts 0753 46465
£24.99

Unique microcosm of a variety of worlds in which you play God. You create the conditions for your minions to breed and colonise a staggering 999 worlds before your human or computer opponent does the same. Recently complemented by an additional disk of new worlds.

AMIGA GAMES

● F-18 INTERCEPTOR

ELECTRONIC ARTS 0753 46465
£24.95

This multi-view solid 3D combat simulator took Amiga owners by storm when it was first released in June 1988. The frame has still to be surpassed and we bet there are still players out her waiting to complete it from day one. Featuring devious missions, superbly animated graphics and stereo sound, it still remains the best flight sim on ANY machine.

● SUPER HANG ON

ELECTRIC DREAMS 0734 31666
£24.99

With brilliant stereo SFX and frantic racing action, this racing bike sim positively roars through the opposition - two or four wheeled. Impressive scenery on every stage and perfect pacing make for all the ingredients you're ever likely to need - that and excellent control

● PURPLE SATURN DAY

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Excellent five-in-one multi-format game that combines shoot-em-up fanatics with strategic gameplay. Featuring all the hallmarks of French graphics and sound we've come to expect from Infogrammes - the animations are well above average.

● DENARIS

RAINBOW ARTS 0260 299401
£19.99

The perfect horizontal scroller, with furious blastability on every level ensuring major destruction of everything that moves. But beneath the ordinary scenario lies a real deviance in gameplay - some of the most engrossing encounters you're ever likely to experience with super-smart aliens that can only be described as complete b*st**d*

● KICK OFF

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Undoubted world cup all-stars in the footie sim stakes, Kick Off's radical ball artists beat the opposition hands down. Playing against the computer or a friend, it's possibly the most addictive game this side of Tetris. K.O's a knock out, featuring league matches across five levels of skill plus a training mode to practice against 8 international sides.

● POPULOUS

ELECTRONIC ARTS 0753 46465
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Play God for once in your life and take on the Devil in a divinely strategic quest for microcosmic conquest. Build up your people's resources, foster their development and birth rate and colonise!. In the meantime throw a few volcanoes, earthquakes and plagues in your opponent's lap as you battle it out across 999 worlds

● XENON 2

IMAGE WORKS 01 928 1454
£24.99

Not bad on the ST but a true tour de force on the Amiga with great Bomb the Bass sampling and overkill weaponry as you work your way through five laser levels on your way to ridiculously resistant end- of -level guardians. Kill and collect endless energy to buy fabulously fatal firepower

● BALANCE OF POWER 1990

MINDSCAPE 0444 86545
£24.99

Brilliant geopolitical strategy where you take the side of a superpower and in five years attempt to change the course of history.Watch with glee as you send division after division of elite Soviet troops into Nicaragua to take out the Contras and hold your breath in terror as you wait for the result of an over -ambitious decision - Armageddon.

● VIRUS

Firebird 0666 504326
£19.99

First solid 3D game to really harness the power of the 68000 - smooth, fast scrolling shoot-em-up with brilliant graphics in which you guide a hoverplane over a archipelago world being infested with pestilence by a variety of alien craft.

● DUNGEON MASTER

Mirrorsoft 01 928 1454
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Arguably the best graphic adventure to have appeared on any machine, Dungeon Master takes you into a catacombed

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world of adventure and peril. Fourteen levels of surprise and puzzles with only four companions to help you survive. Unfortunately only available for users with 1meg of RAM

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Challenge your ST, or a friend, to global domination in the ultimate ST strategy game. A fascinating insight into geoploitica with you playing either the USA or USSR in a five year span of policy-making as you attempt to defeat your opponent without causing Armageddon.

● F-19 STEALTH FIGHTER

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From CGA to VGA you can fly the darkest bird of the air in this excellent flight sim that takes you on missions over Libya and other hot-spots on various combat missions. With multi-views and impressive animation, F-19 stands out as the top playable PC sim.

● 688 ATTACK SUB

ELECTRONIC ARTS 0753 46465
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A sub sim featuring superb graphics and gameplay as you take on the ruskies in North Pole shenanigans right upto VGA ocean clarity. Since submariners and computer buffs might share a lot in common, the atmosphere should suit all comers down to the ground - or should that be bed

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Borodino's author turns out another tactical *tour de force* with this adaptation of the Napoleon's last stand - but was it? A terrific and easy to use wargame that could have you rewriting history if only you weren't playing silicon opposition. Alarmingly addictive

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A series of games which at one time represented a new force in fiction but of late seem to have subsided in an avalanche of arcade action. Nevertheless, Infocom's text adventures remain the most impressive interactive outings, ranging from horror to sci-fi to not so plain old fantasy -well worth checking out -especially Lurking Horror and Wishbringer.

● ULTIMA V

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Still the ultimate role playing game, offering 200 different characters to choose from. And you'll probably need them in a vast excursion that'll have you pondering for years as you try to solve this massive adventure featuring thirty separate towns and their populations, eight dungeons and of course, a fatal sprinkling of that ole black magic.

ARCHIMEDES

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Superior 0532 459453
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The Commodore 64 along with the Spectrum was one of the foremost games machines during the boom years of home computing. Even today, it still enjoys tremendous popularity and new software releases.

● URIDIUM

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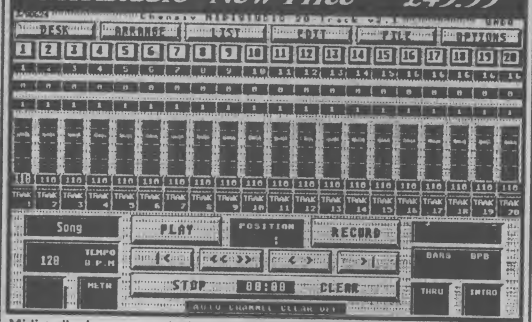

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as to the whereabouts of the aforementioned scientists.

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Probably the most well-known game of all time, Elite is a space trading, strategy game with elements of adventure and shoot-em-up which manages to sustain the interest of players over many hours. Beginning as a novice space trader with a small amount of money, you must claw your way to the top by trading guns, drugs and other contraband commodities with various planets. You can also take to piracy in order to swell the coffers. The epithet classic might have been invented for this game.

● SHADOW FIRE

£9.99
Beyond 061 224 5150
Addictive strategy game involving a team of highly trained crack commandoes controlled by you who beam aboard a space ship and attempt to take it over and rid it of an evil infestation. The game is played via a plan view of the space sip and features smooth scrolling and colourful graphics.

● BOULDERDASH

£9.99
Statesoft n/a (you may be able to find a second hand copy)
Taking control of a cute little ant labouring under the name Rockford you must rush around inside dangerous caverns collecting diamonds and other goodies while avoiding falling boulders. A simple plot but highly addictive.

SINCLAIR SPECTRUM

From the very beginning the newly created home computer market latched on to the Sinclair Spectrum as the ultimate games machine and little has changed in the six years since its launch. Today, new games still find their way to the market and it looks like there's several years of life in the old dog yet.

● WHEN TIME STOOD STILL

£9.99
Ocean 061 832 6633
Strategy and adventure combined to create a highly addictive, supremely playable game involving the control of a team of four characters. Your task is to wipe out the opposing enemy forces or win them over to your side. There are numerous physical puzzles such as bridges to cross, doors to open etc., an the whole game is made special by the use of a smooth scrolling isometric playfield.

● HEAD OVER HEELS

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Ocean 061 832 6633
You take control of two characters who rejoice under the names Head and Heels. Cavorting around a highly colourful isometric playfield you must solve many puzzles by getting head to sit on top of heels. A novel plot, with lots of tricks and traps make the game very enjoyable.

● ELITE

£14.99
Firebird 0666 504326
The all-time trading, adventure and shoot-em-up game which places you in the role of a novice trader who must traverse the vast reaches of the Universe generating wealth by selling goods to planets in need. You can trade in legal or illegal items such as guns, drugs etc., or you can become a pirate and steal the wealth of other traders. Very addictive, colourful and playable.

● MERCENARY

£14.99
Novagen 021 449 9516
Travelling through space you ship develops a fault with the guidance system and you crash land on the nearest planet, Targ. You quickly discover that the planet is inhabited by two warring factions the Palyars and Mechanoids. To escape from Targ you must befriend one race or the other in order to get the equipment necessary to repair you ship. Featuring fast, smooth scrolling 3-D flight simulation, shooting, maiming and killing and lots of underground complexes to explore, the game is deservedly popular.

● LORDS OF MIDNIGHT

Strategy and adventure game involving you controlling four characters trying to solve puzzles, collect treasure and raise armies in order to fight the enemy. Lords of Midnight features interesting playfields with the possibility of eight different views and the difficult challenge of keeping track of your characters.

AMSTRAD CPC464/664/6128

Arriving on the home computer scene a little later than the Commodore 64 and Sinclair Spectrum, the CPC range of machines quickly became popular due to their superior construction, bundled monitor and software availability.

● TARGET RENEGADE

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Ocean 061 832 6633
Highly colourful and addictive game which places you in the roll of a vigilante out to avenge the death of your brother Matt, killed while investigating the nefarious doings of Mr. Big. You must employ everyday items to kill the gang members which you encounter on each level until eventually tracking down Mr. Big.

● GAUNTLET

£9.99
US Gold 021 625 3388
Extremely popular arcade game converted to most formats including the CPC range featuring four separate characters (wizard, strong-man etc.,) rushing hither and thither around an enormous smooth-scrolling colourful playfield in an attempt to locate treasure and kill bad guys. Fun to play and addictive.

● GUNSHIP

£14.99
Microprose 0666 504326
Renowned for the quality of their flight simulators and the enormous ego of the founder of the company 'Wild' Bill Sealy, Microprose touched base with Gunship, a superb helicopter simulation. Although the plot is a little tired (kill, kill, kill), the flight sequences are expertly programmed, and the helicopter is a treat to fly.

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The ultimate, definitive adventure, trading and killing game in which you take the role of a trader roaming the vast spaces of the Universe in order to generate vast amounts of wealth for yourself. You can elect to trade peacefully or rampage around taking out other traders and stealing their goods.

ATARI 400/800/600XL/800XL /130XE

Never quite making it in the popularity stakes, the Atari 8-bit machines did sell into many homes and today, this range of computers enjoys an almost fanatical following.

● FLIGHT SIMULATOR II 39

SubLogic 0101 217 3564166

The best flight simulator available for any computer bar none. This program places you in the seat of a Piper Cherokee Archer single wing light aircraft and gives you the whole of north America to explore. Ground detail such as the Statue of Liberty, Empire State building etc., are within two feet of their real-world positions. The program is so good that SubLogic applied to the FAA (Federal Aviation Authority) to have the program used by real pilots in order to log practise flight time.

● MERCENARY

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Novagen 021 449 9516

3-D flight simulation, trading and killing program. Travelling through space, your ship develops a fault and your crash land on the planet of Targ. To escape, you must befriend one of the two warring factions, the Palyars or Mechanoids. The game features incredibly smooth flight simulation and lots of ground detail.

● RESCUE ON FRACTALUS

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LucasFilm 0101 415 6621966

The planet of Fractalus has been overrun with alien creatures and it is your task to rescue survivors and destroy the alien defences. Rescue on Fractalus was the first game to feature a three dimensional landscape generated by fractal equations. The game has smooth scrolling flight, and lots of thrills as you work hard to destroy the aliens.

● POLE POSITION

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Atari 0753 33344

The first and still the best. This game places you in the seat of a formula one racing car with the engine revving, waiting for the flag to fall. You have an out-of-the-cockpit view of the racing track and colourful, smooth-scrolling graphics. Lots of fun and highly addictive.

● SOLO FLIGHT

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Evergreen flight simulator from Microprose, experts in the field. Featuring colourful, 3-D graphics and a series of flight lessons which appear on-screen and talk you through the process of flying, the game became popular with those who had found other flight simulators rather too difficult to enjoy.

ACORN BBC B

The Beeb as it's affectionately known, enjoyed a moderate success amongst computer users during the boom years of home computing. Unfortunately, the machine was a little too expensive for the average home user and consequently, never quite achieved the sales the specifications demanded.

● ELITE

£14.99
Firebird 0666 504326

The ultimate trading, adventure and strategy shoot-em-up was initially released on the BBC micro where it enjoyed enormous popularity and made owners of other computers extremely jealous. 3-D space flight simulation, trading and killing make the game incredibly addictive.

● REPTON

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Colourful and highly popular maze game involving you as a reptile cavorting around enormous caverns collecting various treasures and avoiding falling objects from above. A simple plot but very addictive.

AMSTRAD PCW

With its green screen and poor sound capabilities the Amstrad PCW is not the computer which stimulates the creative juices of games programmers. Nevertheless, one or two popular programs have been converted from other formats.

● TOMAHAWK

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Digital Integration 0273 56130

Very popular helicopter, flight simulator from Digital Integration featuring super 3-D out-of-the-cockpit smooth scrolling graphics and lots to see and kill. Loses a little on the green screen but still very playable.

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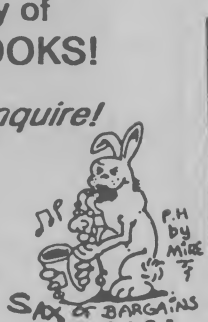

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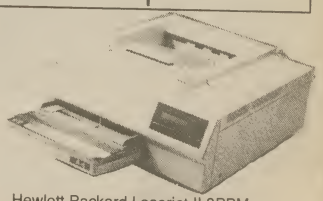

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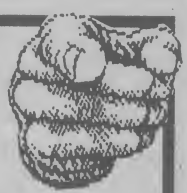

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DOES anyone know of an ST User Group in or about the Portsmouth area? Please contact Steve on Southsea 811321.

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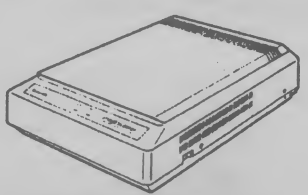

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STREET TALK

BY MAFF EVANS

ISN'T it strange how computers seem to attract a "following"? The early eighties put the "microcomputer" (as everyone called them in those days) in the bracket of those people that professed to be techno-boffins or science freaks. Even playing video games was considered scientific. Back then it was the BBC micro and suchlike that ruled, but soon came a little rubbery machine called the Spectrum. It had really nice things like cheap games to play and found a lot of friends in the public. Then came the good old Commodore 64, with its great graphics and sound, wowing the new trend of games players.

Straight away all the new computer fans started slagging off the "archaic" micros and said how amazing their games machines were. The scene remained the property of these two machines for a while, until a few years ago when news of a new breed of 16-bit machines appeared. The Amiga from Commodore promised extremely pretty pictures and even better sound, but was pipped to the post by the Atari ST machine.

The thing is, now that these two machines are around, the good old Spectrum and C64 are the targets for everyone's derision. So how long will it be before the St and Amiga fall foul of the 32-bit ideal, left to be made fun of in the corner? It's a thought...

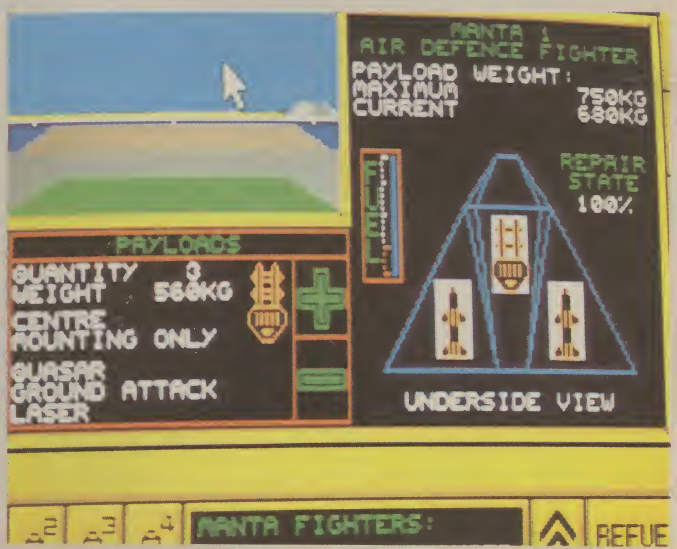
On the subject of old machines, after the news story last week complaining of the minuscule amount of Beeb games available, what happens but a host of new releases descend upon my desk. First is *Blast*, a shoot-'em-up from ASL for the BBC B and Master machines, but most noticeable is a batch of games from Impact software, featuring *E-Type* - a 3D racing game, *UIM* - a sort of underwater *Elite*, *White Magic* - a mystical arcade adventure, *Holed Out* - a golfing game and Arcade Soccer - speaks for itself really, doesn't it? All these should be available now, apart from the Archimedes version of *UIM*, which is due in December. Just goes to show that you can't kill off a machine that easily!

GAME of the WEEK

CARRIER COMMAND

Rainbird • PC version reviewed • £24.99 • Out now

No this isn't a misprint, the game of the week is indeed on the PC. Don't believe that you can get a stonker of a game on the PC? There's only one thing to say to you then...BELIEVE IT!



Just over a year ago, Rainbird released a battle simulation on the ST and Amiga. Strategists instantly went ape over the game and praise was heaped upon it by many reviewers. That game was *Carrier Command*. Now Rainbird has decided that all you PC owners have done without this military masterpiece for too long, so Realtime Software has carried out this superb conversion.

The game places you in control of the ACC *Epsilon*, the first of the Government's latest high-tech carrier ships. The second, the ACC *Omega*, has fallen into enemy hands and has had its controlling software modified. The group responsible - the STANZA organisation - has demanded $15 billion from the government or the*Omega* will be set loose.

Naturally the government can't submit to these terrorist tactics, so an alternative has been found. A new version of the ACC control program has been developed and must be activated by dropping it on enemy installations. This is where you come in. You must use all the tactical systems available to you on your carrier to infiltrate the enemy positions and revert them to their friendly state.

The tactical elements of *Carrier Command* are very well implemented, with clear and concise control and information screens. It's very easy to get into the swing of the game and start deploying drones and Manta flyers all over the shop. Once the various systems have been worked out then getting into battle is a lot of fun.

GRAPHICS AND SOUND • Surprisingly enough, the graphics on the PC version of *Carrier Command* are smooth, fast and colourful. Yes that's right, colourful! All the system's screens are nicely drawn and easy to understand, the maps and radar screens are obvious to track and watching the sea and land whizz beneath you from the Manta is particularly impressive. Nothing much has been done with the sound however, except for the most rudimentary effects (the odd beep or crunch here and there). If more had been done in this department then perhaps *Carrier Command* would have been just that little bit more atmospheric.

OTHER VERSIONS • *Carrier Command* has been out on the ST and Amiga for some considerable time bringing a great deal of success for Rainbird. Even Spectrum owners were given the opportunity to sample the delights of 3D tactical warfare - and rather good it was too. Oh, and all you C64 owners will be happy to learn that a conversion is soon to be released for your machine. Yay!

VERDICT • To be quite honest, I didn't much fancy the prospect of reviewing a PC game (oops! Just offended a load of readers there), but I must admit to being pleasantly surprised. PC *Carrier Command* is a superb conversion of an extremely good battle simulation. The game design is good, the puzzles are challenging and the graphics are excellent. PC owners don't often get the chance to play such classics as this, so if you pass it up you'll be very sorry!

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FIRST PEEK...FIRST PEEK...FIRST PEEK...FIRST PEEK

POWER DRIFT

Listening to the Playback tape this week, its obvious that the 64 version of *Power Drift* has already made quite an impression on some of you. Well we've seen C64 and Amiga versions and it doesn't 'alf look a good racing game! If you haven't seen the arcade version (where have you been?), the game features a variety of colourful characters driving nippy little racing carts around all manner of twisting, bumpy circuits. It's one of those games that's got the hydraulic stomach churners, so any conversion has got to be really really good to make up for the lack of movement. Activision has taken it upon itself to license the game from Sega and have quite a job on their hands. Chris Butler (programmer of *Ghosts 'n' Goblins* and *Commando*) is doing the 64 version, while the Amiga version is being developed by ZZKJ, who was responsible for bringing us the Amiga version of *Super Hang-On*. So what's *Power Drift* really like? Well you'll have to wait for the full review. Hahaha!

MINI REVIEWS...MINI REVIEWS...MINI REVIEWS

DRAGON SPIRIT ★★★

Domark • £19.99 • ST version reviewed • Also available on Amiga, PC, CPC, Spectrum and C64

Dragon Spirit has been available on the PC Engine for a while now, but now - thanks to Domark - the game is no longer limited to that small clique if video gamers. The game features a large blue dragon, flying over a vertically-scrolling prehistoric world, attacking all manner of foes with its fiery breath. Dotted about the scenery are blue and red eggs, which release special pods when bombed. These pods give additional power to the dragon, with additions such as extra heads whirling fire-flies or a huge stream of flame - very useful for those end of level nasties.

The presentation of *Dragon Spirit* is rather on the sparse side - the title sequence only appears when the game first loads, thereafter the game just carries on ad infinitum. The in-game appearance, on the other hand, is well done, with a clear info-panel and well animated sprites flying over nicely drawn landscapes. Again wimpy sound has let us down. What has happened to the days of the powerful soundtrack? Has everyone forgotten *Starglider*?

But what of the gameplay? Well it's a basic shoot-'em-up - and quite a playable shoot-'em-up at that, with the difficulty set at just about right - which makes a change! Having said that, I can't say I found myself drawn to the machine time after time to play *Dragon Spirit*, maybe because (in the words of that famous detective) it's good...but not that good!

STUNT CAR RACER ★★★

Micro Style • £9.99(c) £14.99(d) • C64 version reviewed • Also available for ST and Amiga

First-person race games seem to be making a comeback these days. What with *Hard Drivin'* on the way and *Powerdrome* a big hit, the days of perspective speed are far from over.

Unfortunately, the C64 version of *Stunt Car Racer* falls rather short of the mark set by the two aforementioned games. The documentation gives the impression that there is a load of facets to the actual game, but when you look more closely, most of the text is padding - referring to motor sport in general rather than elements of the program.

What we actually have is a typical 3D zoom around a bumpy track with the odd jump for added "excitement". The only sensation I can sense while driving around is frustration when the horizon does a flip in the most unrealistic way imaginable and I find myself in a heap at the side of the track. Add to this a strange control system, uninspiring, three colour graphics and you're heading towards one of the most infuriating race games available.

Sorry guys, but with *Hard Drivin'* on the way you'll have to come up with something a bit more impressive than this if you want to have a crack at success in this Christmas' market.

MINI REVIEWS...MINI REVIEWS...MINI REVIEWS

HIT LIST TOP 5 GAMES

Our recommended games of the moment.

1. BATMAN
Ocean • Amiga, C64, Spectrum, CPC
"Winged freak terrorises" the games players of the world, in his own fab and wundy video game.

2. KICK OFF
Anco • Amiga, ST, C64
You can't keep a good game down and this one keeps flying up in the air despite being sat on by the *Express* staff, because it's fantastic!

3. POPULOUS
Electronic Arts • Amiga, ST, PC
I just played this again recently and couldn't believe that I'd forgotten how good it is, especially with the new worlds.

4. XENON 2
Imageworks • Amiga, ST
Whizz-bang space battling at its very best...and those graphics...wow!

5. STRIDER
US Gold • Amiga
Wonderful arcade conversion giving you the chance to make Ivan Ruskie taste your steel.

TAME the GAME

● *RVF HONDA* (ST)
"If you run the game in 60Hz mode, you get the game a lot faster and it is very impressive."
Paul Ffelan, Chorley

● *NEW ZEALAND STORY* (SPECTRUM)
To get to the cheat mode, type FLUFFY on the title screen and a kiwi will appear at the bottom of the screen. You can now start with infinite lives and the ability to press enter to get to the next level.
Brian Morton, Bangor, Northern Ireland

● *SHADOW OF THE BEAST* (AMIGA)
Place disc 1 in the drive and hold down the left mouse button until the game starts. You will now start with infinite energy.
If you still don't know what the blimey heck is going on then follow these pointers.
1. Go left.
2. Enter tree.
3. Go down until you encounter monsters with axes and kill them.
4. Keep hitting blue orb held by fire breathing monster to get a super blaster.
5. Go up-right to Skull-Chariot monster and use super blaster to kill him.
6. Go back down to where the blue orb thrower is. There should be a gold key around somewhere.
7. Go back to where you killed Skull-Chariot monster, cross the bridge, go up, left and throw the switch on the wall.
8. Go further up and go left through bouncing eyes.
9. Get second gold key from next to the dead monster.
10. If you go down and right you should find your way out.
11. You will emerge from the well to the right of the start position.
12. Continue right and you will come across a castle.
13. Go right until you see the torch on the wall.
14. Jump up and collect the torch.
15. Enter the castle and...
Well that's a different section, isn't it? You'll have to find your own way from here.
SM Stocks, Chesterfield, Derbyshire

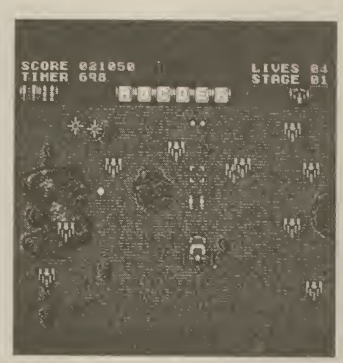
A very useful set of tips there. So a piece of software will be winging its way to you soon.

● *STARGOOSE* (ST)
Not the greatest game in the world. but if you play it and would like invincibility then press F9 during the game.
Nicholas Holness, Whitstable, Kent

VIEWS...MINI REVIEWS...

ACTION FIGHTER ★★

Firebird • £24.99 • ST Version reviewed • Also available for PC, Amiga, Spectrum, CPC and C64



Back in the mists of time, Sega released a vertically-scrolling coin-op, which placed you in the role of a special agent in a highly armed car. This game was called *Spy Hunter* and at the time it attracted quite a bit of attention.

Years later and Sega have come up with a game which is not entirely dissimilar to *Spy Hunter*. *Action Fighter* is a vertically-scrolling shoot-'em-up, with you in control of a motor-bike – which later turns into a car and then a spy plane.

Actually, the game is more like a cross between *Spy Hunter* and the classic *Xevious*, with the first section comprising of a race along a busy road evading enemy agents, collecting bonuses and going into a truck for extra weapons.

The later section has you flying along, destroying airborne baddies and dropping bombs on ground targets.

Although the baddies on both sections are quite nasty and lives are lost at an alarming rate, this game proves quite compulsive. The scrolling is remarkably smooth and fast and the sprites are neat and colourful.

The main problems lie in the sound and variety of gameplay stakes. Each level bears a striking resemblance to the one before, with a few more landscape features added. I would prefer more of a change. As for the sound, the effects consist of vague beeps and crunches - not the most realistic in the world.

For me, these problems question the viability of twenty five pound price tag, but if you like the classic arcade game then give it a whirl. It could be just your cup of dry leaves suffused in boiling water.

ONE-LINERS ● ONE-LINERS

• Brøderbund, long regarded as innovators in video gaming, is set to release the latest in its series of historic action/strategy games. *Joan of Arc: Siege and the Sword* has been available on ST and Amiga for a while, but PC owners shouldn't have long to wait before they can put themselves in the kingly shoes of Charles VII. The game supports Hercules, CGA, EGA and Tandy graphics, including a selection of digitised screens to portray the action.

• Spectrum owners can soon sample the delights of interplanetary competition with Infogrames' *Purple Saturn Day*. The original 16-bit versions had all sorts of accolades heaped on it - and rightly so it was a good game! Eight bit owners wishing to take to the stars for a trip through Saturn's Rings or a brain test can buy *Purple Saturn Day* from £9.99 on cassette or £14.99 on disk from October 23rd. Oh and first prize of "Press Release of the Week" to Pauline Garsden for the release that gave this info. Nice one!

• Buy the time you read this, Domark should have finished releasing the Star Wars trilogy on just about all formats. Reviewed a few weeks ago in *Express*, the package is a collection of all three Star Wars-related arcade conversions and represents a worthwhile purchase to fans. Ready for the prices? Here we go... £24.99 for ST and Amiga versions, £17.99 for C64, CPC and Spectrum +3 discs and £12.99 for C64, CPC and Spectrum cassettes.

• The end of this year sees a busy time for Mindscape with a bundle of releases in the offing. Before the end of October, PC versions of the circus game *Fiendish Freddy's Big Top o' Fun* at £34.99 and the *Back Up Pro* copier at £69.99, while November has in store releases for various formats, including...(takes enormous breath) *Fiendish Freddy* on the ST; Horse racing and *Gin and Cribbage* on the Amiga; *Omega* on ST, PC, Amiga and C64; *Space Rogue*, *Knights of Legend* and *Windwalker* on PC and C64; and finally *Star Trek* and *Harley Davidson* on the PC (phew). Exact prices and release dates will probably be available soon.

• Elite, soon to be bringing out the 16-bit versions of *Commando*, is just about to release a scrolling *Commando*-style war game. Seems strange.... *Dogs of War* features selectable weapons, multi directional scrolling, and simultaneous two player action. Written by Steve Bak, the game should be available at the beginning of November at a price of £19.99 on ST and Amiga. I wonder how it'll fair against the official licensed game?

• Logotron, those wonderful people that gave us *StarRay*, has two new games in the pipeline. *StarBlaze* is a filled 3D shoot-'em-up, featuring "colourful backgrounds and scores of fiendish alien attack waves." Sounds thrilling! Also due soon is *Bad Company*, a 3D *Space Harrier* style game by Steve Bak (where have I heard that name before?). *Bad Company* should be available at the beginning of December, while *StarBlaze* will appear slightly earlier in November.

VIEWS...MINI REVIEWS...

● ***ARCHIPELAGOS*** **(ST/AMIGA)**
Press RETURN after completing levels 1 and 2, then type 8421 and press [RETURN] twice. You can now select any of the Archipelagos from 1 to 9999.
Oliver Hargreaves, Preston, Lancashire

● ***BATMAN*** **(AMIGA)**
On the title page, hold down the J, A and M keys. the screen will flip upside-down and when you restart you'll have infinite lives.
David Pickering, Cheadle Hulme

A useful tip for a great game and well deserving of a prize. Cheers David!

● ***WIZBALL*** **(ST/AMIGA)**
Press the space bar to pause then type RAINBOW, pres fire, then the space bar then C. Life should now be much easier
M du Plessis, Cleveland

● ***IKARI WARRIORS*** **(ST/AMIGA)**
From the high score table type FREERIDE the [Return] and the screen goes back to normal. Then press either one or two players and take it away!
M du Plessis, Cleveland

DO YOU OWN THESE GAMES?

- **BATMAN**
- **SHADOW OF THE BEAST**
- **STRIDER**
- **DYNAMITE DUX**
- **CARRIER COMMAND**
- **INTERDICTOR**
- **EYE OF HORUS**
- **XENON 2**
- **DRAGON SPIRIT**

Cheat modes for *Batman*, *Shadow of the Beast* and *Strider* in particular would be most useful. So if you think you can oblige with a helpful hint or tip, then send 'em in to...

Tame the Game
4 Queen Street,
Bath.
BA1 1EJ

Remember, the best tips win something for nothing (except for the 20p you pay for the stamp).

Can't be bad eh? (Bribe, bribe).

Playback

YOUR VIEWS ON THE LATEST SOFTWARE – CALL 0225 444439

"I've just played *Batman* on the Amiga and I just want to warn people - don't buy it it's a heap of crap. Bye."

No it isn't.

"Could someone please persuade software houses to stop licensing everything that has a remote chance of being turned into a game. Can we please have some more original software?"
BRIAN MORTON, Bangor, Northern Ireland

"How about having a lottery - Guess the launch date of *Pools of Radiance* on the ST. It's been said that it's going to be launched for four months to my knowledge. US Gold is now saying January or February when about a month ago it said mid October."
STEVE NEWTON

"At last Chris Butler has finally delivered on the Commodore 64. Thanks Chris, *Power Drift* is absolutely brilliant and fantastic. Let's see how good US Gold can do when it brings out *Turbo Outrun* on the 64 as programmed by Probe."
IAN DOCKRELL, County Wexford, Ireland

Aw, that's not really fair is it? What about *Ghosts 'n' Goblins*? That was good, even though *Space Harrier* wasn't.

"I thought I'd ring up to warn people off the ST version of *TV Sports Football*. You only get half a game since the statistical element has been left out completely, the gameplay is all to easy, you have to reboot the machine after each game - even on the 1040 - and what's more there's a bug or two when you get to the playoff stages. I've never seen it, but I can't believe the Amiga version was as bad as this. How can anyone give this a Game of the Month rating?"
STEVE PITTS, Hemel Hempstead

"I've just bought *Indiana Jones and the Last Crusade – the graphic adventure* on the Atari ST, and the sound effects have to be heard to be beleived! They are so lifelike, it's amazing. No honestly. I'm telling the truth, they're really good!"

The phone call was abruptly ended with the sound of men in white coats arriving. Anyone else want to say something on the state of the software industry? Well give us a bell on 0225 444439 and stick it on tape. Oh, and if you've got "absolutely nothing at all to say" (in a Scottish accent), don't bother.

AMIGA BLITZ

Budget bonanza

Even though the marketing people keep assuring us that £25 is a very reasonable price for an Amiga game, most of us still can't afford to lash out every time another block buster is released. Thankfully, this is all set to change (no, we aren't all going to be given a loan!).

As you've probably seen in a recent issue of *Express*, Virgin Mastertronic has announced the arrival of its new budget label, 16 Blitz which will be selling a whole range of Amiga games for a mind blowingly low £4.95.

As well as the infectiously addictive *Infection* (reviewed three weeks ago in *Express*), Virgin have the following titles coming to an Amiga near you very soon –

Little Computer People – Re-release of the curious Activision game in which you adopt a 'computer person' as a pet. The original £25 price tag was a bit steep, but for £5 you can't go wrong.

Sorcery + – Now this really is the business. Fight to get your hands on this game if you have to – for £5 this is an absolute must! The game involves you travelling through a mystical land rescuing your sorcerer friends.

RoadWars – Old Melbourne House game that was originally produced for the Arcadia super select systems. From what I say at the PC Show, the game has been enhanced and is also worth investing in.

Pub Pool – As the name seems to strangely suggest, this is a pool game which will be of interest to those of you who like pool (isn't logic wonderful!).

World Darts – Another Arcadia super select game that goes down particularly well at my local, the Mason's Arms (now the most famous pub in Britain!). Do I really need to tell you what this game is all about?

Kelly X – If my memory serves me well, I'm almost certain that this was the working title for what eventually became *Xenon*. Anyone know any different?

First there was A-Max

After years of build up, we have seen Amiga emulators for such mundane machines as the PC and Macintosh, but now the seemingly impossible has finally been achieved; the Amiga has got itself a Sinclair QL emulator.

Unlike other emulators, the most astounding thing about this particular emulator is that it is PD (let's face it, who's going to actually pay good money for the thing!). Unfortunately, I haven't got any QL software (and I don't want any) and so I haven't been able to actually test the emulator, but from what I've seen, it looks pretty complete. The author claims the emulator will run the vast majority of QL software and it will even allow you to read QL disks directly (you could have a problem with Microdrives though!).

The emulator is available for £3 from UGA software in Holland who can be contacted on 010 03404 52987. I haven't got a clue as to whether there is a UK distributor for the UGA disks.

A friend indeed

After last weeks preview of Brown-Wagh's up and coming Amiga word processor *Pen Pal*, you'll be glad to hear that, after a week's solid use, the program more than lives up to expectations.

As reported last week, *Pen Pal* is another of the new breed of 'word publishing' packages that combine the editing power of a dedicated word processor, the data handling capabilities of a database with the kind of layout power only found in up market DTP systems. The program features one of the friendliest user environments I've seen for many moons, which more than evidently owes a great deal to the Macintosh. If you are considering treating yourself to a word processor, or even a simple DTP package for producing forms, notices etc, then Pen Pal is worth considering.

For the definitive review, check out the next issue of *Amiga Format* which will be on sale on the second Thursday of next month (I know, it's a long time to wait!). The UK distributors, DLL, can be contacted on 0983 405600.

NEWTEK-nology

NewTek, that Kansas-based producer of state of the art Amiga hardware and software, is soon to release a major upgrade to its ever popular digitiser system, *Digi-View*.

NewTek has been working through the night to finish the system in time for a November release (it was 4.30 in the morning, his time, when I spoke to Paul Montgomery, president of NewTek). Among many other enhancements, the most astounding feature is that *Digi-View 4* will allow you to digitise 4,096 colour pictures in high resolution. Yes, you did read that last line correctly – 4,096 colours on screen at once in high resolution (640 by 512 pixels). According to Paul, this impressive feat is achieved by using the Copper to alter the colour registers after every scanline, therefore allowing upto 16 colours to be used per line. Unfortunately, pictures produced using this system will not be compatible with currently available paint packages, although existing screen modes are still supported.

For enhanced HAM pictures, NewTek has also developed a new HAM system that allows far sharper images than are possible with currently available digitiser systems.

Also due for release soon from the darker depths of NewTek (or 'Alcatraz' as it is known by the programmers that work there) is a 3D rendering package from that pioneer of Amiga 3D graphics, Alan Hastings, creator of the critically acclaimed *VideoScape 3D* animation system from Aegis.

Jason Holborn

• *Digi-View* – major upgrade due very soon

ST

Thoughts of Chairman Bob

You'll recall last week I was speaking to Atari UK's boss Bob Gleadow – OK, so he's not Chairman, but I've got to get a headline somehow! – about the prospect of an Atari show to be held in the first half of next year.

My next questions to Gleadow concerned the STE: is it merely a minor enhancement? When will it be available? "The ST is going be around a long time," Gleadow replied, "and like General Motors we've got to keep improving. I would like to hope that we'll get some of the 1040 product out – the STE 1040 – before Christmas.

"Logistically, Christmas for Atari is a nightmare, but if we can slot the STE deliveries, produce them and deliver them, we will. It's a very delicate time for us.

"The STE's been announced about four times. And if you read back in the press we've had a lot of criticism about our showing and not delivering. So yes, we do show our new products, we do get market reaction to them, and it's a question of policy: we don't believe that we prematurely show, but definitely if we showed a product and the world hated it, we'd kill it. So to us it's a very worthwhile marketing exercise.

"During the time that the STE, in its various names, has been shown, it has been further developed. So what we showed at Dusseldorf for the 1040, we believe we will deliver on. It's final, it's frozen, it's been sent to manufacturing level."

But will programmers take advantage of its capabilities, when the non-enhanced ST user-base must be their primary concern? "The ST as it is now must have a user base of around 200,000. That's a stand-alone viable market. If ten per cent of that base bought a game you'd have a 20,000 seller and the game companies would be ecstatic; five per cent, 10,000 seller and the game companies would still be ecstatic. So I'm not unduly concerned, because I believe that the STFM market is now large enough so that people will keep writing for it.

"I also believe that because the STE is totally STFM compatible, the soft option today is left to exploit the new features. Some programmers will, some won't and there'll be a crossover. And as the STE base develops, you get more and more software exploiting its features."

Looking further into the future, I wondered whether the TT might be the kind of machine ST owners would be buying in three or five years time: "The TT allows a second or third time buyer an upgrade path," Gleadow replied. "It's a machine you can expand: you can change the size of the drive, you can increase the size of the memory, you can use the half-height expansion slots. So it's a flexible, open architecture machine.

"I believe the initial market for the TT will be in universities as a very fast workstation, a very fast terminal, as a text and graphics engine. There's a number of products which will run significantly faster on a TT and therefore make a much more attractive proposition for professional use. So the *Calamuses*, CAD packages: the TT gives them a performance benefit which makes them more than respectable. So we do see it moving into a professional market as a text and graphics engine.

"So yes, we do see a number of ST users upgrading to it, because it will run their peripherals, it will run their software, and they'll be familiar with the look and feel of the machine when they're driving it."

In the US, incidentally, Atari's president has been talking up a good fight between the TT and Steve Jobs' NeXT system, saying that he expects it to "clobber them." We shall see.

Tales from the computing twilight zone, 1

The first in an occasional series

It was just an ordinary day when Mike Gerrard – who incidentally writes for *ST Format*... £2.95... all good newsagents... astonishing value... Where was I? Ah yes, it was just an ordinary day when Mike bought the excellent *Protext*, a sound move for someone, like him, moving up from the Amstrad PCW (or CPC). Or so he thought.

Anyway, Mike has an early single-sided drive ST, and Arnor were commendably swift in changing them for single sided disks. But that's not the problem, though it's part of it. When he'd installed *Protext* to run with his Star LC24-10 all seemed well until he tried to use underlining, italics or any other typeface than that currently in use on the printer: "The software and printer were battling for control," as Mike melodramatically puts it: "and the printer was winning!"

"This was puzzling," Mike goes on, "since the correct printer driver had been installed, as was confirmed by the *Protext* Status Line. Arnor were puzzled, too, since they'd had no similar complaints. And even a lengthy chat at the PC Show with these ever-helpful chaps failed to suggest a solution.

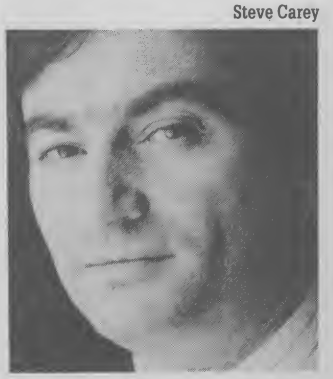
"It was then I noticed something odd: the printer driver on my start-up disk was smaller than the printer driver on the master disk. Funny, I thought." Funny indeed. Mike tried to re-install the driver, and a notice flashed up briefly that the disk was full and installation unsuccessful. As Mike points out, the fact that the disk was cataloguing as full was not initially that noteworthy, since some software companies use the "0 bytes available" as a protection device – indeed Arnor's dictionary disks are a little like this.

What had happened was that the printer driver had been opened and partly transferred, which was why it appeared on the Status Line. But not all the driver commands had gone across. Moral: in order to get the full driver on a single-sided start-up disk you have first to remove the CONFIG.PRG file and put it on another disk.

Mike is now living happily in Huntingdon, his *Protext* printer driver experiences a thing of the past. Yet it really happened...

If you have a computing Tale of the Twilight Zone, why not share it? Write to Club ST, NCE, 4 Queen St, Bath BA1 1EJ.

Steve Carey



• *Gleadow: Hopes to get some STEs out for Christmas*

PC UPDATE

ROM screen fonts

The nature of a PC text screen was brought home to me the other day when I received a VGA card on loan. The card in question was a pukka job with 512K of video memory, so it should be just right for reviewing some VGA only products, such as AutoDesk's *Animator*. It installed OK, and seemed just the job, apart from some rather odd colour switches and one other unfortunate feature.

The characters that appear on any PC text-mode screen are drawn from a ROM attached to the video card. As well as being based on a different dot matrix, text for Hercules, CGA, EGA and VGA screens is dependent on the design of the characters in the video ROM. Those on this VGA card are so horrid, I'll be glad when the loan period's up. No attempt is made to account for the mono-spaced nature of the text, so capital 'i's are left wallowing in a sea of blank space, while 'm's and 'w's crowd out the other letters. 'C's are badly formed and the descenders on 'g's and 'y's look bitten off.

I'm not just being a typography bore - a screen of text on this card looks really messy. There's a lesson to learn, which I shall certainly bear in mind when I have to buy a VGA card. Check you can live with the text which appears on a text mode screen - after all, it's the mode you'll use most.

Timeworks DTP 1.2

The new version of *Timeworks DTP* has arrived. Among the heralded changes to the program, like support for extra text and graphics formats and increased font usage, is another goody which GST haven't said nearly as much about. It is, nonetheless, of great importance to anyone loading a lot of text into a *Timeworks* document, and adds another Ventura-style feature to the program.

You can now add paragraph style names to a text file by enclosing them in angle brackets, <>, and *Timeworks* will automatically assign the style of that name to all succeeding paragraphs, or until another style is marked. This means that consistent use of embedded style marks can format a manuscript completely automatically - a great boon in producing longer documents.

TopDOS 'Editor'

Having sung the praises of *TopDOS*, the MS-DOS improver which makes working with the operating system tolerable, I have to report a nasty which cost me not a few hours work the other day. The built-in editor, which is very handy and produces nice clean ASCII files, is not so clean when editing a file from a nearly full disk. When you come to resave the edited file, all seems to go well until you exit the editor and check the disk directory. The filename's there but the filelength is 0 bytes.

The file has not been saved and the old version has been erased. A pretty effective way of losing the data, as some sort of overwrite is performed on the disk, destroying the cluster links which would help a program like Norton Utilities from undeleting it. The batch file which controls the *PC Plus* SuperDisk underwent this 'backup' the other week and had me working til one in the morning. NewStar need to do something about this.

DOS batches

It's very easy to add new commands to DOS in the form of short batch files. These can easily be tailored to offer just the facilities you need. One function I've always wanted is to create and move to a new sub-directory in one operation. Typical use of such a function would be to create a directory when installing a new application. The following batch file, which you might save as NEWDIR or something similar, will do the trick:

```
echo off
cls
echo Making and moving to direc-
tory %1...
MD %1
CD %1
```

You would run it by typing `NEWDIR <directory name>`.

BASIC 2 Plus

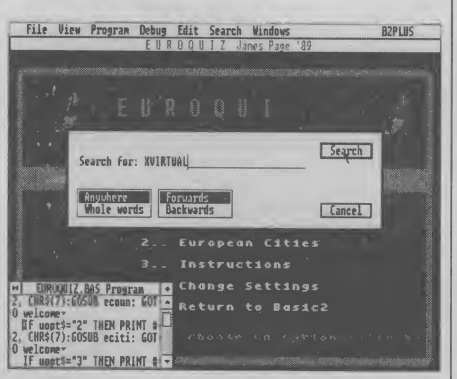
This morning I received a full production version of Locomotive Software's BASIC 2 Plus, the new version of the GEM-based language which was originally supplied with Amstrad PC 1512s and PC 1640s. It is a complete revamp, with lots of extra structures and commands, and gives many other modern languages a very good run for their money.

Perhaps the biggest single advance is in the use of modules. In many ways similar to a module in Modula 2, BASIC 2 Plus can pass parameters to separate pieces of code, which can themselves be in BASIC or machine code, and return values from them to the main program. Modules can be loaded and unloaded as needed while a BASIC 2 Plus program is running, and gives scope for larger programs than before.

The editor has also been overhauled, with full search and replace, auto-indentation of source code, an outline view of the program structure and a clipboard for moving sections of code around. The editor has been combined with a comprehensive set of debugging tools, including breakpoints, single stepping and an autotrace mode which bounces the cursor from one command to the next as the program executes.

Existing BASIC 2 programs may need some minor amendments, as the syntax of the new version of the language is in some places tighter than before. Most will show some speed improvement, though. When I've had the chance to become more familiar with the language, I'll let you know how well it lives up to the foregoing claims. You can also see a review of the product in the next issue of *PC Plus*.

Simon Williams



• BASIC 2 Plus includes a comprehensive search and replace function, but seems to dislike 'Z's

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CPC centre

Tuning in

Amstrad is wooing currently CPC-less punters with a new 6128 bundle. For £399 you get a CPC 6128 with colour monitor and free TV tuner. This nattly little (not so little, actually) device will turn your monitor into a fully-fledged colour TV, giving potential CPC-ers even more leverage when it comes to negotiating deals with the holders of the household finances. After all, with every 6128 purchased you're now getting a colour TV absolutely free!

And there's more. Included in the bundle are 17 games, including *Monopoly, Scalextric, Cluedo, Trivial Pursuit* and *Scrabble.*

Nice one, Amstrad!

Chinese whispers

I had a rather disturbing letter just the other day from a Miss J E Graham, who's just had an extremely bizarre communication following an order she sent to a certain mail order company. She writes:

"Could you please answer a question. Is the Amstrad CPC range being discontinued after Christmas? I wrote to this company for a price list of their Amstrad CPC peripherals and serious software. They replied saying it was not possible to forward a price list because it had been brought to their attention that Amstrad may be discontinuing the CPC range after Christmas. This was not certain but they had cause to believe it (1) because of the source and (2) because Amstrad have no plans to advertise the CPC range over Christmas.

I have just bought *Stop Press* and mouse, and I was planning on purchasing some serious software such as *Protext* or *Brunword*, but I am reluctant to do so if this is true. I have had my Amstrad 6128 less than a year and must admit I am more than a little upset if this is true.

Please, if possible, tell me the truth. Is the Amstrad CPC done for? Should I cut my losses and by an XXXXX or XXXXX?" (Names deleted to avoid offending readers' sensibilities – ed.)

Well, Miss Graham, we can tell you the truth. (1) Amstrad is certainly not dropping the CPC. (2) Amstrad is spending £600,000 on promoting the CPC range, starting in November. Also, even when the CPC is finally dropped, support from the peripherals and software companies will continue for a long, long time given the large existing user base.

I spoke to the company you wrote to, and they told me they were still undecided about whether to carry on selling the CPC because of all the uncertainty, and felt it was only fair to warn people. You can't blame them, I suppose, but they're the ones who are going to lose out – it just goes to show how damaging unsubstantiated rumours and scaremongering are.

Fear not, Miss Graham, your CPC is good for many more years yet.

Alternative humour

With Christmas now all but upon us (well, two months away actually, which in the world of hype is the same thing), the first Christmas game has appeared.

The Official Father Christmas will be appearing on November 1st, courtesy of Alternative Software, and will set you back no more than £2.99. Even better is the news that all royalties from the game are to go to Save the Children. How worthy can you get?

In the game you play the rosy-cheeked buffoon himself as you tackle a variety of levels of seasonal gameplay. In level one you have to build a sleigh, in level two you must collect toys from the elves who make them (who, being elves, are inclined to be mischievous and not let you have them), and in level three you must type out a list of toys to be delivered on Christmas Day. (Write this down: Rod Lawton, 64b Poorhouse Lane...)

Finally, in your role as Father Christmas, you must deliver your toys to locations throughout the world, including Europe, America, Australia and Africa.

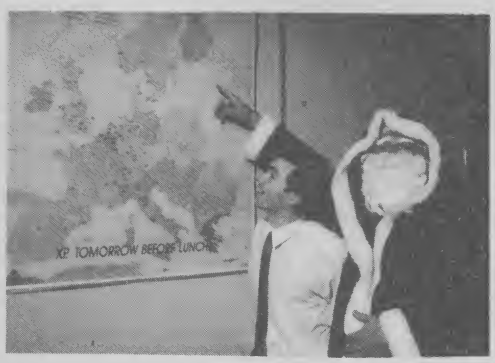
War – Huh! What is it good for?

Well, it's good for a jolly good blast on the old CPC, actually. *War Machine* is a new budget release from Players. For £2.99 you get a good, solid blast-em-up with a fair bit of mapping and weapon-collecting thrown in too.

The plot centres on the fate of the mining installation on asteroid XR27B. Prime suspects are the Alien Syndicate, and if they gain control of the base there will be nothing to stop them etc etc.

Well, I'm sure you get the idea. The plot is ever so slightly secondary to the action anyway, which is carried along by nice sprites, solid, colourful backgrounds and neat but nasty opponents. These include evil bio-mechanoid bloodsuckers, so be warned. One particularly nice touch are the armour-corroding acid baths awaiting the careless combat marine. These engulf your sprite in a cloud of ionising alloys (© O-Level Chemistry, 1974), finally finishing off your hero in a seriously psychedelic explosion if you don't jump out sharpish.

Rod Lawton



• Exclusive! Alternative's new Christmas game licence deal signed by the one and only real Father Christmas! Oh yeah? Pull the other one, it's got (sleigh) bells on it...

Murderous cheat

Fans of that unsung classic Ninja Massacre will no doubt be thrilled with this excellent cheat from Alec Warping of Burnham-on-Sea.

Simple hold down the T, A and G keys simultaneously when you start each game. This allows you to start from where you left off (or died) on the previous game, and also, when the game is first loaded, it will get you access to a special screen laden with goodies.

SPEX

The return of the Multiface

Excellent news! Romantic Robot's spiffing peripheral the Multiface is good, honest, decent, legal and now back on sale . You'll probably remember the emotional scenes in Spex when the company announced that due to the passing of new copyright legislation the whole family of Multifaces were technically illegal to sell and had to be given a one way ticket to South America. Well now, after extensive advice, it's been decided that the amazing snapshot/hacking/back up device doesn't contravene the copy right bill and is a perfectly respectable member of the add on community.

Anyone with a Multiface tucked in the back of their Spectrum will tell you what good news this is because when it comes to perfectly legal but very troublesome operations like hacking, screen dumps and transfering tape based progs to disc, the Multiface makes them considerably hassle free. Every Spectrum owner should have one!

Details from Romantic Robot at 54 Deanscroft Avenue, London. NW9 8EN

New Outlet opens

Outlet is the name of a techie based diskzine that's received several bathroom's worth of plugs in past columns. Each mention has been much deserved too , because when it comes to the serious side of the Speccy this mag provides everything a self respecting techno buff could want, every month and on every format, with one glaring exception. The hurrah-inducing news from the publication's publisher, Chezron Software, is that *Outlet* will now be made available to the one class of Spectrum owner which's been left out up 'till now - the hard done by +3 user. And although the 3-inch disk you get it on looks pretty much like every other three inch slab of plastic, +3 versions of *Outlet* will make use of a snazzy megaformat routine called *Supermat.*

This program somehow manages to squeeze an extra 38K out of every disc you ask it to format. The author of *Supermat* points out that means a saving of 22p on every 3-inch disc and £22,000 on every million disks you purchase. Chezron Software is obviously pretty generous because the aforementioned format extender is actually included on the latest issue of OUTLET, and the price is still under a million quid. Also on the latest issue (number 26) are some nicely programmed games, news, letters, reviews, programs and a truly impressive graphics demo called Other Worlds. A lot of the stuff on each issue is branded freeware, which like public domain software you're positively encouraged to copy and distribute amongst fellow users. In this case it's of a very high quality.

Outlet is absolutely essential reading for people who yearn and crave more material on the non-games side of the Spectrum and now that +3 owners are catered for, everyone can enjoy the fun. *Outlet*'s available on microdrive cartridge, Discovery, +D and Disciple disk as well as humble cassette tape and, of course,+3 disc. Chezron are also planning a SAM Coupé version. Now no one's got an excuse not to try a copy. Send a blank disc/cartridge (not tape) for a free demo or £2 for a full blown. Send an S.A.E. for more details of the +3 version to: Chezron Software, 605 Loughborough Road, Birstall, Leicester, LE4 4NJ.

Loyalty test

I've just been the lucky recipient of a very nice letter from Rog Pile of Cornwall. Rog had some interesting things to say about Spectrum loyalty which I think you'd benefit from reading:-

"Have you noticed how many people say that they're going to buy a 16 bit machine but still intend hanging on to their Spectrums? It's curious how much loyalty the machine inspires. Well , actually, I'm going to get an ST too... and I'm hanging on to my Speccy. Can anyone think of another machine which it's possible to get a wider range of quality budget games for?'

In a word, NO. They'd also be pushed to find a machine which gives you access to a wider variety or larger selection of highly playable, superbly programmed games that our machine offers.

Anyway, Rog also wants to recommend a purveyor of adventure software that he's a huge fan of. "Adventure game enthusiasts could do worse than get in touch with Linda Wright's Marlin Games at 19 Briar Close, Nailsea, Bristol. BS19 1QG." Rog tells me that this company offers excellent adventures at low prices and send orders return of post. Sounds like something the adventurous amongst you might want to check out.

Finally-"Whatever happened to the Plus 3 users club Lee Davis intended starting up? I wrote to him shortly after he published his address, enclosing an s.a.e. , but no reply. Heard anything?" He asks. Unfortunately I haven't heard any more but if anyone out there has I'd be grateful for any info you could pass on.

Thanks to Rog for writing, keep sending your letters about any aspect of Spectrumming to Robin Alway, New Computer Express, 4 Queen Street ,Bath, BA1 1EJ.

Action pack

Here's a tip for any purchasers of the new Sinclair Action Pack bundle:

Whatever you do, don't try to use the restyled Sinclair joystick lurking somewhere inside the package. To get straight to the point, it's the worst game controller ever. The handling's abysmal , the fire buttons only work once every five presses and it's the least aesthetically pleasing 'stick since, well the last one Amstrad bundled with the Spectrum . The thing looks like it cost Amstrad 3p to make and that's the number of minutes of use you'll get from it. This thing will ruin the best games. Don't even open the box.

Robin Alway

Write on

I'm always an the look out for interesting new Speccy programs, hints tips, or whatever. If you know anything interesting drop me a line to Spex, Express, 4 Queen Street, Bath BA1 1EJ. Cheers!

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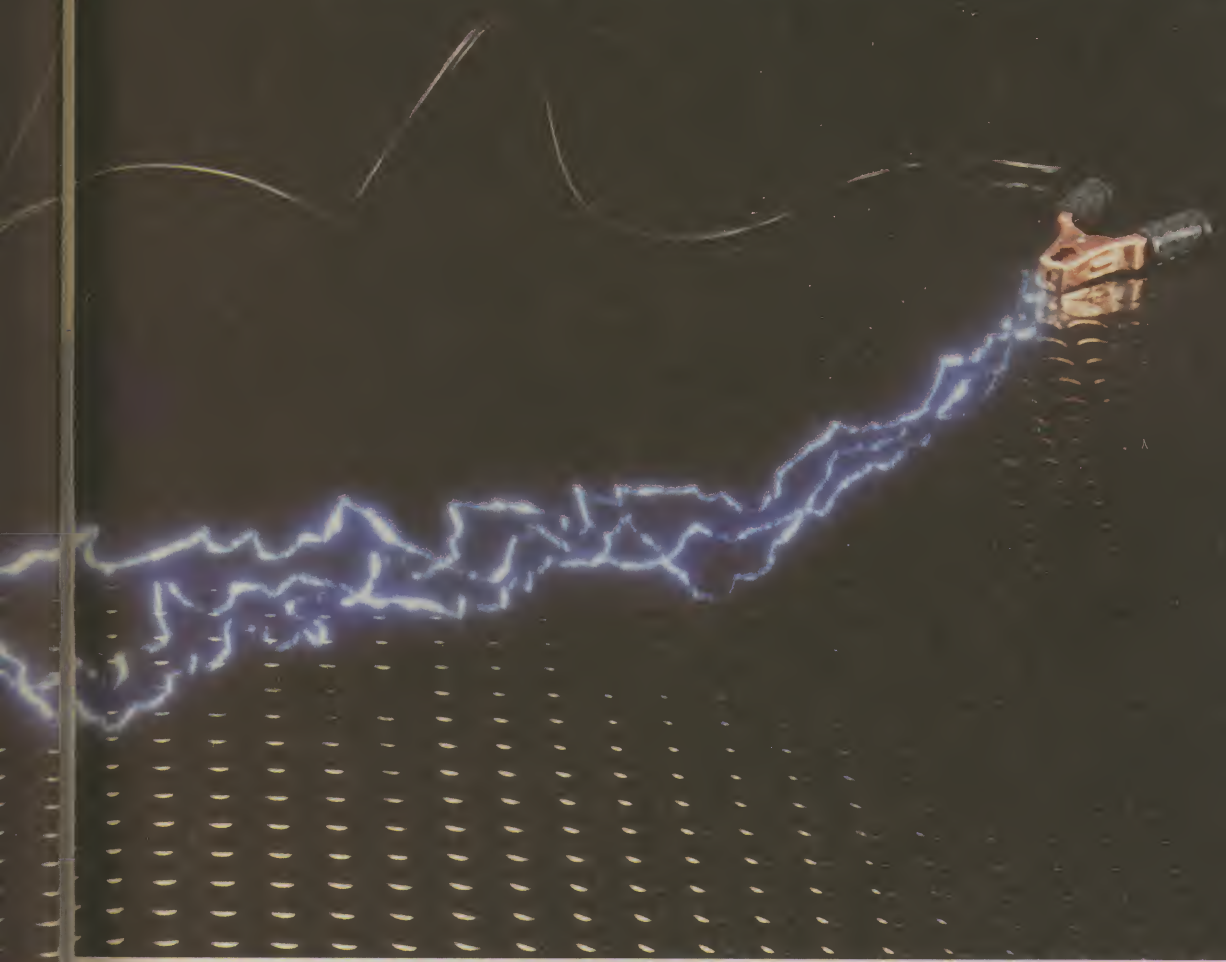

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BEEB BOX

Travelling man

The 'If it's Tuesday it must be England' syndrome doesn't often hit this particular scribe, but it certainly has this week. Off to a show in Holland one minute, back at another in England the next I feel distinctly jet lagged (well ferry lagged anyway) at the moment.

However the Big Ben meeting in Holland was as ever superbly well organised by Harry Linsen. A good time was had by all, not least the Dutch for whom the show is a welcome opportunity to catch up on English magazines and software. By the way if you ever feel hard done by for the cost of *New Computer Express*, in Holland up to seven quid for a British computer magazine is not uncommon. In spite of the cost there was a wide range of publications available, from the super glossy Byte type right down to DTPed mags produced by clubs. Two things only marred my trip. Lager louts on the ferry outwards made sleep impossible, and the theft of my camera bag in Amsterdam by a junkie was an unpleasant reminder of the crime prevalent in that city.

Shareware club

Peter Cumberland of the Auntie BBEB shareware club has been in contact again. Latest new from him is that the club has decided to concentrate on larger programs such as their BASIC to ROM compiler, now named SideRAM. Current projects the group is working on include a complete BASIC compiler, a DTP program and a PC emulator for the BEEB! Could be interesting, if it works. The group have now acquired an A3000, and the capability to develop programs for both machines using that system.

On the subject of shareware I was talking recently to Ian Copestake author of the *Wordpower* wordprocessor recently and his observations make interesting reading. "People don't quite understand the concept of shareware in the BBC market" He also added "I've had several responses from your piece, (in *NCE*) but what I really need is my address published" My response to the last comment is that everyone who wants to make use of the shareware concept needs to think about their marketing strategy very carefully. Just this once I will publish an address, but it's certainly not my policy to give free advertising. What you should be doing is talking to the advetisement department of the magazine so that the marketing effort is a coordinated one.

Ian Copestake Software, 10 Frost Drive, Wirral, L61 4XL.

My last point to would be shareware authors regards the actual program itself. And the message is; RAM IT DOWN THEIR THROATS! Put messages in the program itself explaining how to pay up. Don't rely on people reading documentation, they usually don't. Irritate someone enough and they might just fork out.

Andrew Brown

SECTOR 64 SECTOR

Hotter tips than a soldering iron

David Knowles of Great Barr, in Birmingham, has supplied yet more tips. He describes them modestly as 'short bits of nonsense' – not bad for nonsense, David!

Sideways

This one line routine appears rather odd, but type it in exactly as shown. Once it has been listed, it will appear a little different from the original. If a mistake is made, you must restart from the beginning as it cannot be edited. Remember that the square brackets contain a description of the key to be pressed – don't type in the square brackets!

```
10 FORI=1TO40:PRINT"[home][csr rt]";:
FORJ=1TO24:PRINT""[csr
left][inst][inst][inst] [del][csr
down][csr rt]";:NEXTJ,I
```

Put something on the scren and run this routine. Watch it slide in to action.

Tintinabulation

Don't reach for the dictionary. Just type in this single line and run it for the answer.

```
5 S=54272:POKES+24,15:POKES+1,110:
POKES+5,9:POKES+6,9:POKES+4,17:
POKES+4,16
```

Program heading

If you would like to put a neat heading at the start of your BASIC progam, simply add this line to the start of the treasured creation. Just press the keys referred to. Do not type in the square brackets.

```
0 REM""[del][rvs on]TTTTTT[rvs off]
NOW TYPE THE HEADING YOU WANT
```

Wallpaper

Did you know that your C64 can produce a wallpaper pattern catalogue from just one line of BASIC?

Seeing is believing. Press the keys named but don't type in the square brackets.

```
5
A$="[blk][brn][grey1][yel][blu][grn][
pur]
[cyn][red][wht]":N=N+1:FORJ=1TO1040:
R=JANDN:?MID$(A$,R+!,1)"[rvs
on][space]" ;:NEXT: GOTO5
```

The colours will appear in the listing as reversed graphics symbols. When you are tired of the first 255 patterns alter the length and makeup of A$ for a complete new catalogue!

Easy script music

No that's not what I mean! *Easyscript*, the well known word processor, is not capable of writing music.

However some issues of the program do contain an additional surprise. In command mode, press the F1 function key, then hold down CTRL while pressing key 3 (or the £ key).

Try it for a patriotic interlude, but don't feel cheated if nothing happens on your version!

Thanks again to David for these tips.

Raj Chatterjee

QL corner

Crashing QL

My QL recently started playing up; crashing a few minutes after being switched on. Following my own advice in this column, some months ago, I checked the obvious things like the mains plug, and the voltage regulator, but couldn't find anything wrong. I then pressed all the socketed chips firmly into their sockets and tried the machine out. As expected, this cured the problem.

This is well worth trying if your QL suddenly becomes unreliable; it only takes a few minutes, and could save you an unnecessary repair bill of £25 or more.

Sinclair used "cheap and nasty" sockets in the QL, to save a few pence, and chips sometimes work loose, because of thermal cycling. IC pins also get oxidised, resulting in intermittent contact problems.

Another Hard Disk Interface

The latest issue of the Quanta newsletter mentions yet another hard disk system for the QL, produced by West German firm ABC-Elektronic. This plugs into the QL expansion port, and has a buffered through-connector for another peripheral card, Like the Miracle Systems interface, the ABC product is designed to take a low-cost PC/XT controller card. The cost of the interface, with controller card, will probably be around £130.00.

This makes a total of four hard-disk systems for the QL (three commercial offerings and one DIY design). Not bad for a "technical oddity, not worth buying", as the QL was recently described in this magazine!

Bristol Quanta Workshop

Quanta, the QL user group, is holding a one-day workshop in Portishead, near Bristol, on Sunday 12 November. As always, everyone is welcome. Contact Phil Borman on (0472) 49850 for details. There will be a "bring and buy" stand at the meeting, organised by the Bristol sub-group, and it is hoped that Tony (*QDOS*) Tebby, and Chas (*The Editor*) Dillon will be available, for question and answer sessions.

Disk Firmware Upgrades

If you bought a disk interface for your QL a long time ago, or you have recently fitted a second-hand interface, it might be worth checking with QJump that you have the latest version of the firmware, in the EPROM on the interface. QJump can either re-program your old EPROM, or supply a new one. If you use one of the Micro Peripherals interfaces, with its non-standard firmware, QJump can provide an upgrade that makes the interface compatible with everyone else's. Apart from Micro Peripherals, all other interface manufacturers used AJump firmware.

QJump is at 24 King Street, Rampton, Cambridge, CB4 4QD. Tel: (0954) 50800.

John Torofex

MSX TRA

Anyone for...

The MSX now has two versions of tennis for you to choose from, Konami's old *Tennis* and now Imageworks' new *Passing Shot*. Now Konamis Tennis was a pretty good name, and was as near to real Tennis as you will get on a home computer. How well then was *Passing Shot* going to compare with the former title. *Passing Shot* is supplied on cassette, and upon loading asks you for a skill level. An opponent is picked for you and it is than onto the game. You are presented with a back view of your player, which then changes to an overhead view immeadiately after service. The first thing that strikes you as odd, is the fact that you only see part of the playing area, the screen scrolling as you move your player around.

Now on the MSX this isn't too bad, as our computers offer a fairly large on screen picture. I can imagine the Commodore and Spectrum versions of this game are far harder to play due to there smaller playing area. Positioning your player for a return shot could be pretty difficult for a novice, and the scrolling playing area does take some getting used to. Graphics and sound are both pretty good, the sction scrolling very smoothly. I have read reviews of this game on other formats, and it was only given a luke warm reception. My main criticism is that it might be too easy, as I reached to semi final on the hardest level the first time I played the game, (must be years of playing Konami's version). Otherwise Passing Shot is a fari game, not as good as Konami's, but reasonable value at £9.95.

News time

The good news for the MSX user is that many companies are still producing software for our machines.

- Grandslam have two titles coming our way shortly, Liverpool and Peter Beardsley, both of which appear to be somehow related to soccer (that took some working out).
- Titus confirmed that Pipeline will be their next release, but don't hold your breath waiting for it's appearance – it is not due for release until March next year.
- Blade Software, a relatively new company tell me that after the release of Laser Squad, look out for Man Utd (another football game) and Lords of Chaos.
- Not so good news from Level 9: they have no plans to convert any of their future titles to the MSX, probably because the market for English text adventure games on the MSX is so limited, MSX software being produced mainly for export.
- Ocean will be converting more titles to the MSX, but were being very cagey about revealking the names of the titles due for release. It wouldn't surprise me to see Batman converted to our format in the near future.
- Dinamic from Spain still write for the MSX, but as the UK market is so small, it is unlikely that we will see any more of their games over here.

Keith Neale

PCW PATCH

A xxxxing fortune

It was Yorkshirewoman Vivian Nicholson who vowed on winning the pools to 'spend, spend, spend'. All my Dad would spend if he won a fortune would be his life drunk. If I won a million pounds, I'd probably just put it towards paying off my mortgage.

Anyway, you can find out what it's like to win a fortune with the help of a new pools prediction program, Poolsmaster, from Intraset, and a bit of luck, of course.

The program costs £18.95 from 02572 76800. Apparently there's already been a winner – a Mr Hammond of Chigwell, Essex, who pocketed £10,000. Should just about pay off his poll tax.

Hard facts

MK Chakravarti of Delhi asks me about hard disks for his PCW. He wants to get hold of one when he next comes to England, saying that hardware isn't too easy to get in India!

Well, Mr Chakravarti, I suggest you go for the Cirtech Diamond from Cirtech on 0896 57790. You can auto-boot from it, unique among hard disks.

It's also faster than any other hard disk, taking just 80 seconds to transfer a 1Mb file! It costs £465 for the 32Mb version or £545 for the 48Mb.

Other possibilities are the WEB (20Mb, £499, Timatic 0329 236727) or the System 2000 (40Mb, £499, Ideal Hardware 01 390 1211) – either would suit any small business or heavy private user fine.

X ray aye

Mr Chakravarti also wonders if the data on his disks will be adversely affected by the X-ray machines in use at airports (and particularly in Indian airports, where security is very friendly, but very tight indeed).

I've never heard of disks being corrupted by these machines, and one doctor I know even put a LocoScript disk in an X-ray tube. It still worked afterwards despite being given a minute's burst!

As always, you're best requesting a hand search of anything sensitive, but I don't think you need worry too much.

Besides, you keep a backup at home, don't you?

Key sera sera

Frequent users of BASIC may find it helpful to use the SETKEYS facility to assign to the function keys strings such as LIST, RUN [RETURN], EDIT, and SAVE ".

For the last command remember you don't need the closing quote on the filename before hitting return.

You put a quotation mark into a setkeys file by typing ^" and, er, that's it.

Pig out

A couple of people have asked me if I saw the letter in *Express* 46 from the nice lady who runs a farm outside Hereford and has named one of her pigs 'Basil' after me.

Yes, I have, and apparently Basil is doing very well, and should be in the freezer by Christmas. Ahh...

Basil Pigg

ARCHIMEDES LORE

Minerva multistore

Another offering at the PC Show, and there were plenty, was the new database from Minerva. Not content with having one of the leading products in the Archie database market, *MultiStore* is a fully RISCOS program with some definite advantages over the company's earlier release, *System Delta Plus*. Firstly, it's fully multitasking. This means you can lift data from *MultiStore* straight into a RISCOS word processor or DTP (memory permitting). Secondly, it's fully relational, so you can link fields between databases and avoid storing the same data twice. You can, of course, display cards from more than one file on screen at once. Existing *System Delta Plus* files can be loaded directly into *MultiStore*.

The price of the product, £299, puts it firmly into the professional league, but that cost does include a report generator and mailmerge software for your mailing lists. Being RISCOS compatible also gives it access to Acorn's outline fonts and these are supported within the product for producing fancy labels and the like. Phone Minerva on (0392) 437756 for more details.

Mandelbrot zoom

It can get rather tedious when envious owners of other micros continue to deride the Archie as only good for school kids and Mandelbrots. Nonetheless, it has to be said that Acorn's super-PC is very good at Mandelbrots.

There's a program called *Mandelbrot Zoom* in the public domain which illustrates this excellently. Starting with a picture of the entire set, which it draws in a couple of seconds, it lets you zoom in on any area, drawing new screens in well under a minute (unless you pick a completely black section). The display is in 256 colour mode 13 and looks more and more spectacular as you increase magnification. Being a Mandelbrot set, of course, you can zoom in as far as you like, revealing ever greater detail. The core calculation is written in ARM code, but everything else is in BASIC V.

I have a similar program, written in compiled C code which I occasionally run on my PC. This is a fast machine as PCs go, with an 80386 processor running at 25 MHz. The program does much the same as *Mandelbrot Zoom*, with one small difference - it takes up to an hour to draw each new screen!

Economy drive

I'm in the process of putting together a second floppy for my Archie. I've got together an old tape streamer case with power supply and a 40/80 track switchable 5.25-inch from a friend in the trade (I will pay you, honest, Tim). I've got all the cabling together and spent yesterday evening soldering the whole shebang together. It should work, but for one missing component. Down in the wilds of the South Hams it's hard to get hold of a sub-miniature 2A mains fuse!

Bertrum Carrot

WAREHOUSE CLEARANCE

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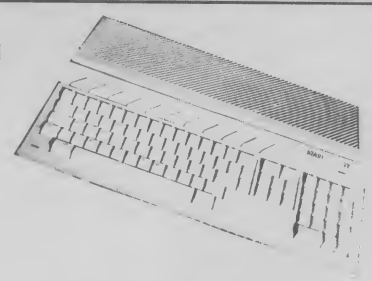

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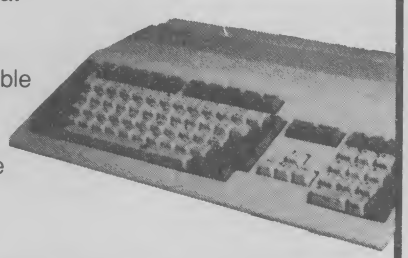

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TECH TIPS

Personal computer problems? Express' Agony column has the answer. Write in strictest confidence to Uncle Techtip. The best tips win a freebie – so don't forget to tell us your address and machine

HELP! Driving on home

Here is an Amiga A500 problem that I would like you to solve for me.

Can I connect a CBM 1570 disk drive to my Commodore Amiga A500 and Datel twin external drive? If so, how much will the hardware and software cost?

Please advise where the items required can be purchased and also if there are any limitations.

J. J. A. Gurhy, Bamfurlong, Wigan.

I'm afraid not J. J., the 1570 is a serial drive with a lot of on-board controlling electronics that make connection of the drive to other computers very difficult. A nice idea, but it just won't work.

HELP! Horse 'n' SCART

Recently I have heard and seen about a socket connection called SCART. From what I gather, this allows you to connect your computer to a television giving better resolution. Could you please give other readers and myself all the information on this system?

S. J. G. Reeves, Solihull.

SCART is not a system. It's just another one of thousands of attempts to find the perfect connector between two electronic devices. A SCART plug looks like a slightly misshapen D, with a series of pins contained within. The SCART connector is used extensively on the continent to connect videos to TVs etc., and started to make in-roads into computing a few years with the advent of home computers. Unfortunately for the persons responsible for SCART (and who they are I have no idea - and care less so don't write) the connector standard has remained relatively obscure when compared with DIN and other methods of connection.

SCART in itself will not provide your computer with a higher resolution display on a a standard television. What it will do, is to allow you to connect a computer to a television offering composite or RGB input. Using these display standards you will get a clearer, sharper picture than with ordinary TV pictures which rely on the input signal being encoded then decoded (thereby deteriorating the picture quality).

HELP! Creating a DIN?

I would be very pleased if you could help me with a small problem I have. I currently own an Atari ST, accompanied by a Philips TV/monitor with an RGB DIN connector. For some time now I have been using the TV display, and to be honest I don't think my eyes can take it for much longer.

I use this machine for graphics and for most of the time I find myself squinting at what I am doing (dark colours are the worst). For a couple of months now I have been looking for a lead which will fit the DIN connector and I still can't get hold of one. I would be very grateful if you could tell me of a place that can supply a suitable lead/DIN connector

W. Jackson, Blackley, Manchester.

Problem solved! Treble H Computing of Stevenage, Herts sells a wide variety of leads of all configurations. Bung them a cheque or postal order for the sum of £9.95 stating what you want and before you can say Bob's your Aunt's live in lover, there'll be a satisfying thud on the doormat and the lead will have arrived, OK?

HELP! Bare drives!

I'm thinking about buying a second disk drive for my Amstrad CPC6128. I'm thinking about a 3.5 inch drive, but instead of buying one of the 'plug in and go' units, I'd like to buy the drive mechanism unit on its own and build my own power supply. The trouble is, I've not got a clue where to get these drives, so could you please print the address of someone who supplies them and give me an idea of the price?

P. Harrison, Wigston Fields, Leicester.

Siren Software (84-86 Princess Street, Manchester M1 6NG) are the acknowledged leaders in drive supplies for the Amstrad CPC range. The company's 3.5-inch drive including *Ramdos* (which you'll need to get anything out of the drive) costs a reasonable £109.99 and comes with everything you need to get going.

If you're really bent on being difficult, you could buy the Siren Software offering, tear out the parts you don't want, throw them away and build your own. Alternatively, and I'm not being facetious, consult the Leicester Yellow Pages wherein you'll discover a veritable Alladin's cave of computer suppliers who can let you have a drive. Cost should be about £70. Then you'll need to talk to

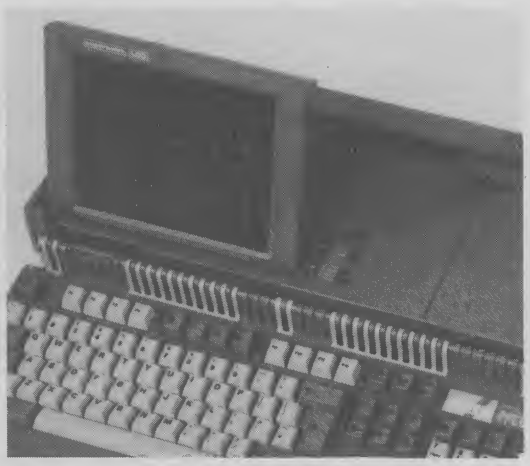
HELP! Portable passion

I am looking for a portable or a laptop computer with a disk drive and a printer port. I dare say I will need a fair amount of memory or the possibility of expanding at a later date. What I want the computer to do is to handle lists of text, dates, years, and valuations and word processing.

As I am working on a small budget I intend to go to an auction, so if it is possible to suggest a few models that would fit the bill I would be very grateful.

As to the software, can you name any for the particular tasks in question or would I need some custom software written? If so how do I find a programmer?

C. Condron, East Ham, London.



• Fancy a take away? The PPC could be the answer for C. Condron

Although you don't specify the fact, a portable/laptop computer with a disk drive almost certainly means a PC compatible portable or laptop, which means you're instantly transported to the over-£500 price bracket, and that's for the very cheapest, very flimsiest, most poorly specified machine you can find. However, buying a PC compatible portable does mean that you will have a least 512K (probably 640K) of valuable RAM memory to play with so the applications you wish to use will run quite happily.

So what's available, that's cheap, easy to use and provides all of the features necessary for competent computing? The Amstrad PPC range of machines are very usable, don't cost a great deal (they're the cheapest portable by far on the market), and are very well specified.

The range begins with the PPC512, a 512K RAM, single floppy disk portable with a full size keyboard, printer and external monitor and user ports. Moving through a twin drive version, there's the PPC640, and it is this machine that has aroused the interests of jaded computer hacks everywhere. There's a built-in V21, V22, V23, V22bis modem of incredible quality which is almost worth the price of the computer alone. 640K RAM, a full size keyboard and more ports than you can shake a stick at complete the specifications. You can pick up a discounted PPC640 for around £600.

The idea of visiting an auction is a good one and should produce the desired result, although Amstrad computers do tend to hold or even expand their price a little at auction. But don't worry. Fix a ceiling on the amount of moolah you're prepared to part with, and don't sneeze or scratch your nose, or you may end up with more than you bargained - and bidded - for.

You won't need to employ the services of a freelance programmer. They charge anything from £20 per hour upwards and anyway, there are commercially available programs covering everything.

If money is a little tight, have a rummage in the public domain for some freebies. Details of PD suppliers can be found in the back of *Express* and our sister magazine *PC Plus*.

Maplin Electronic Supplies (01 748 0926) to get the requisite parts for the power supply (probably about another £20). And finally you'll have to buy a copy of *Ramdos* or *Rodos* in order to make use of the drive. Are you beginning to see how the Siren Software deal is the best? Take some sound advice from your dear old Uncle - buy the Siren Software drive (can I have my palm crossed now please, Siren?).

HELP! Looking for adventure

I have owned an Atari STFM for about two months now and so far I'm impressed as I used to have a Commodore 64. I am however, having problems with various aspects of word processing and programming. I am trying to start writing my own programs, adventures and such for the public domain. I know the basics of programming but I need to understand certain points in order to complete the adventures, so could you please explain the following points:

1. When writing an adventure how do you stop the computer from printing all possible choices? At the moment the text scrolls up the page before there is time to read it. Could you please show me a program that would pause the scrolling with a MORE> prompt at the bottom to give the adventurer time to read the text.

2. Could you also show me a program that would protect any unauthorised personnel from listing the program or in some way reviewing the program.

3. When I bought my computer the company provided disks with various programs to use running from GEM. On all the disks there are data files as well as program files. This really shows how uneducated I am at programming. I assume that most of these data files contain information that has to be printed out before it can be seen or used. But is there any way of actually accessing the program? On one disk there is an adventure game that I simply cannot gain access to. I would be very grateful if you could tell me how I can use such programs.

Roger Wyber, Bickleigh, Plymouth.

1. and 2. As you are obviously a novice programmer I don't think writing adventures is a good way to begin on the great road to programming proficiency (!). Begin by paying a visit to your local book store and buying a book detailing programming in BASIC which will help you to understand the finer points, and make solving the problems adventure writing present.

That doesn't solve the problem of giving vent to your adventurish creative bent does it? So why not invest £20 or so in *STAC* (*ST Adventure Creator*) from Incentive Software (call the company on 0734 817288). This program allows you to create wonderful adventures which can also feature pictures imported from graphics and paint packages, simply by defining the text you wish to print out, the locations and descriptions you wish to use etc., the program does all the hard work. It's an excellent package which received deservedly good reviews.

3. You can't just have access to the programs on the disk. What you must do is to fire up the Atari BASIC program which came with the machine (full instructions in the ST's manual) then RUN the program from within BASIC. However, you may still encounter problems because the adventure program was written with an early version of ST BASIC which featured one or two wrinkles not supported by later versions. So if you encounter error messages when you try to run it, don't worry! It isn't the computer, but Atari's lousy programming.

HELP! Colour micro?

I am about to make up my mind about which PC compatible to buy but I am a bit confused about monitors.

My main use will be word processing but I would like to progress into graphics and games later. Should I go for a colour monitor? Can I use my existing Hitachi TV for colour?

David Eldridge, March, Cambs.

I'm afraid you won't be able to use the Hitachi television to display colour on your PC compatible. If you can afford it, buy a machine with a colour monitor (there are many manufacturers offering deals on colour displays at the moment). If not, then buy a standard PC compatible and upgrade it with a CGA colour adapter card and colour monitor at a later date (many machines are shipped as standard with a CGA card).

A CGA adapter will cost you about £60 and a colour monitor will cost about £250. If you can stretch to a machine with colour monitor now, then expect to pay about £700, maybe less. The moral is 'shop around'.

TVs cannot be used to display signals output from PC compatible computers directly, although several companies do produce TV modulators which plug in to the expansion slots of the Amstrad range, reflecting their more games oriented image.●

HELP! Power PC?

I am a university student undertaking a degree in electrical and mechanical engineering, and now I need a powerful computer to help me in my own engineering work. The computer will preferably cost between £500 and £800 with a keyboard and high resolution monitor.

I am not after a computer with excellent quality output, but I am after power, cleverness and a computer that with its ability to cope with changing climates would not be swept off the market so easily. I want a computer that in itself contains the minimum of built-in features and one which is ingeniously designed machine which I can expand internally.

The prospective computer must be IBM compatible, it should be interesting to use and capable of undertaking the work of a professional.

At the moment I have been thinking about an Amiga 500 and an Archimedes 3000. But the Amiga seems to be a games machine and also seems to be rather outdated *(!! - Uncle TT)*, while the Archimedes 3000 is a super powerful computer but has no software to work with.

Mario Fillets, Anttard, Malta.

• The sheer power of an Archimedes 3000 could tempt Mario Fillets

Phew! A bumper crop of requirements there kids. Right, down to business. The Amiga 500 is a powerful computer that is rather under supported when it comes to serious software, although that position is changing all the time. As you said, the Archimedes is super powerful but again is under supported software-wise. You won't be able to get the power you require if you plump for one of the many PC compatibles so what does that leave? Acorn's latest baby the Archimedes A3000 is a very nice machine. Using the same RISC technology as the Arc 310 but significantly cheaper (around £600) and with built in BBC and PC emulators it can make use of lots of existing serious software and there are machine specific software titles appearing all the time. It's fast, and sleek and powerful and there are advertisers in this and other magazines just itching to sell you one.

So what are you waiting for? Rush out and buy one...

TIP Joystick japes

I had problem with my Atari ST computer and new joystick that I think your readers should here about so that they don't fall into the same trap. Although a pensioner *(although a pensioner what? - Uncle Techtip)* I play a large amount of shoot-'em-up and arcade style games and decided to buy an one of these latest autofire joysticks, so I went to my local computer supplies shop and bought one.

I took it home and plugged it into the ST but the computer hung up. Try as I might I just couldn't get the ST to respond to mouse or keyboard commands, it was completely locked up. I thought it must be broken so I bundled it into its packaging and took it to the shop where I bought it.

Guess what? When the engineer looked at it, It worked perfectly. I took it back home, feeling really pleased that I didn't have to spend any of my meagre funds to repair the computer, plugged in my new joystick to play a game and found that once again, the machine refused to work. It just sat there sulking. Anyway, to cut a long story short I realised that it was the joystick! Whenever it was plugged into the computer with the autofire option switched on, it sent so many signals to the computer that it couldn't cope and just locked up!

I hope that this is a warning to other Atari ST users who may be suffering the same annoying problem.

Andrew Petal, Kingsbridge, Devon.

• ST owners beware – autofire joysticks can really screw you up

COMPUTER CHAOS

More microcomputer mayhem from the vaults of Mel Croucher

USAF Malmstrom, Montana, USA

The Pentagon confirms that a large part of the West's nuclear deterrent was out of action throughout 1986. They also confirm that during the 12 months nobody noticed. As th best brains in the land supervise the annual Christmas reprogramming of the Minuteman nuclear missiles, incorrect codings are fed into their failsafe systems by Strategic air Command technicians. This means the rockets will not obey their electronic launch orders because they do not match the on-board codes. Naturally when the error is discovered the following Christmas the missiles are recommissioned to make the world a safer place.

Houston, Texas, USA

Darlene Alexander is a school teacher with a clean credit record. She drives a second hand but fully paid up Datsun. On September 12th she applies for a $75,000 mortgage. She is turned down because her credit records show her to be heavily in debt to American Express, Mastercard and Visa, as well as owing $28,000 on a 1988 Chevrolet Camaro. Although she produces her own records to disprove these accusations she is still refused credit wherever she goes. It seems that a crook has stolen her identity, because of her perfect credit record, and run up a mass of fraudulent debts. This leaves Miss Alexander with the prospect of taking the advice of Houston police lieutenant J F Rabago – to change her name fast "because nobody is going to change her record, and it stinks."

Software Symposium, Keele University

The following statistics confirm that governments continue to spend taxpayers' money in the traditional manner. an analysis of £4 million of software used in nine government projects studied shows that 47 per cent was delivered but never used once, 29 per cent was paid for but never delivered, 19 per cent was delivered but abandoned as useless, three per cent was used after modifications, and a massive two per cent was used as delivered.

Long Beach, California

Dr Yik San Kwoh is director of research at at the Long Beach Memorial Medical Centre. He invents a computer controlled robot arm to perform with pinpoint accuracy during brain surgery. The device calculate angles and dimensions and then performs drilling through the skull and needle biopsies on human heads. Naturally, it is carefully secured to prevent any accidental movement, which could be fatal, and the software is thoroughly tested before use. During the second operation the second operation a power surge causes the arm to be an inch off target just as it is about to drill through the patient's skull. A quick-thinking neurosurgeon pulls the plus and comments "an inch is as good as a mile in the brain". After consultation with an electrician Dr Kwoh has now added a surge suppressor to the power line.
(*New York Times*)

Sydney, Australia

Sydney's new monorail has a GEC-140 Programmable Logic Controller located in its nose. Its job is to provide maximum comfort, safety and efficiency for passengers as they are whisked around town. Since last August, the automated system has developed a taste for little pranks, which include ignoring requests to stop, going home for a clean , and holding three dozen passengers prisoner for two hours while sucking out their fresh air and trying to cook them alive. The GEC programmer comments "You'd behave the same if you had to deal with those ****ers all day.'
(*Computing Australia*)

Southampton, UK

A Budd Co. assembly robot has apparently committed suicide after sniffing glue. Programmed to apply a complex bead of fluid adhesive non-stop, the robot grabs a handful of caustic solvent then proceeds to shoot itself in its electronic chest. It is declared dead at the scene of the accident.

Mission Control, Volvo

The following letter was sent to the recipient by their car dealer. 'Volvo has determined that a defect which relates to safety exists in Volvo cruise control systems of 1986 and 1987 Volvo automobiles... a malfunction in the microprocessor may unexpectedly engage the cruise control. We have also found that the application of the brake cancels the malfunction... Accordingly, we will replace the microprocessor of your cruise control at no charge to you.'

The Pentagon, USA

A thief steals a computer from the Strategic Defense Initiative 'Star Wars' office during the night of April 10th. Consultants are rushed in to check the automatic security system, which has been expertly sabotaged, and also discover that the computerised video cameras have been emptied of recording tape. They repair the system. That night, a thief steals another computer from the same office, by sabotaging the automatic security system. Fortunately, the intruder forgets to tamper with the videos. Unfortunately, the consultants have forgotten to load the cameras.

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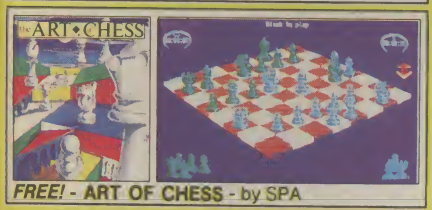

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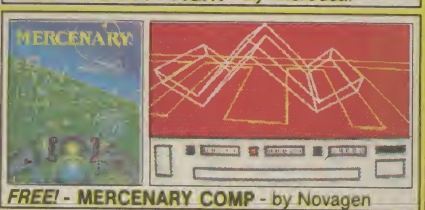

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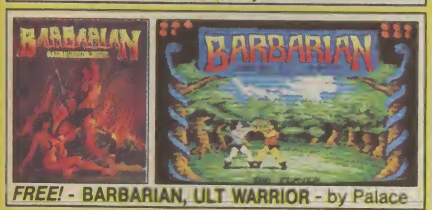

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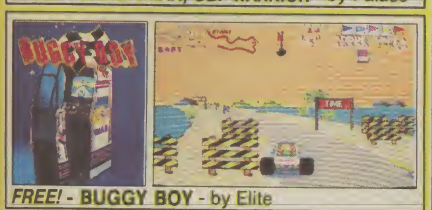

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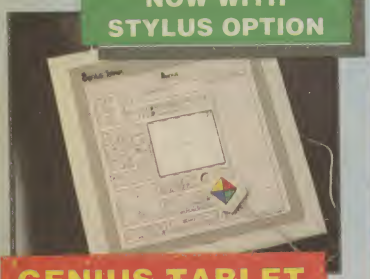

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